

MEETING NOTICE

Truckee Meadows Stormwater Permit Coordinating Committee

DATE: May 27, 2021
TIME: 9:00 am
PLACE: **MEETING VIA TELECONFERENCE**

Posting: Public Notice: Pursuant to Section 3 of the Declaration of Emergency Directive 006 (“Directive 006”), the requirement contained in NRS 241.023(1)(b) that there be a physical location designated for meetings of public bodies where members of the public are permitted to attend and participate has been suspended. Moreover, pursuant to Section 3 of Directive 006, the requirements contained in NRS 241.020(4)(a) that public notice agendas be posted at physical locations within the State of Nevada has likewise been suspended. See, http://gov.nv.gov/uploadedFiles/govnewnv.gov/Content/News/Emergency_Orders/2020/DeclarationofEmergencyDirective006reOML.3-21-20.pdf. This agenda has been electronically posted in compliance with NRS 241.020(3) at <http://www.reno.gov>, and NRS 232.2175 at <https://notice.nv.gov/>. To obtain further documentation regarding posting, please contact Tara Aufiero; aufierot@reno.gov.

Order of Agenda: Section titles on this agenda are for convenience and reference purposes and are not intended to define, govern, limit, modify or in any manner affect the titles of the items listed for consideration by the committee. A time listed next to a specific agenda item indicated that the specific item will not be heard before that time – it does not indicate the time schedule of any other item. Items on the agenda may be removed, postponed, taken out of order and the public body may combine two or more agenda items for consideration.

Accommodations: We are pleased to make reasonable accommodations for members of the public who are disabled. If you should require special arrangements for any meeting, please contact our office at (775) 343-6288, 24 hours prior to the date of the meeting.

Pursuant to Section 5 of Directive 006, the requirement contained in NRS 241.020(3)(c) that physical locations be available for the public to receive supporting material for public meetings has been suspended. Staff reports and supporting material for the meeting are available on the City’s website at <http://www.reno.gov/meetings>. Pursuant to NRS 241.020(6), supporting material is made available to the general public at the same time it is provided to the Committee.

IT IS ANTICIPATED THAT ALL OF THE MEMBERS OF THE COMMITTEE WHO APPEAR WILL PARTICIPATE BY TELEPHONE CONFERENCE. PURSUANT TO THE NEVADA GOVERNOR’S DECLARATION OF EMERGENCY DIRECTIVE 006, SECTION 2, PUBLIC COMMENT MAY BE MADE BY EMAIL PRIOR TO THE MEETING TO: jonest@reno.gov and will be made part of the public record. Public comment received during the meeting will be provided to the Committee for review prior to adjournment, and entered into the record. Public Comment will not be read into the record.

AGENDA

1. Call Meeting to Order.
2. Roll Call.
3. PUBLIC COMMENT – This item is for either public comment on any action item or for general public comment and is limited to no more than **three (3) minutes** for each commentator.
4. Approval of Agenda. (For Possible Action)
5. Approval of Meeting Minutes for the March 25, 2021 and April 22, 2021 SWPCC meeting. (For Possible Action)
6. Review and possible approval for payment of below invoice. The City will pay the invoices and seek 75% reimbursement from the Water Management Fund from the Western Regional Water Commission and 25% reimbursement from the Nevada Department of Transportation per the Interlocal Agreement. (For Possible Action)
 - a) Balance Invoice #213136-0421, dated April 26, 2021, in the amount of \$8,232.71 related to Stormwater Monitoring for FY20/21.
7. Review and possible approval for payment of below invoices and receipt. The City will seek reimbursement from the Water Management Fund from the Western Regional Water Commission per the Interlocal Agreement. (For Possible Action)
 - a) Cardno Invoice #311134, dated May 4, 2021, in the amount of \$ 2,477.50 related to Scheduling and implementing LID Manual Technical Training.
 - b) Cardno Invoice #311135, dated May 4, 2021, in the amount of \$337.50 related to Scheduling and implementing LID Manual Technical Training.
 - c) Cardno Invoice #311832, dated May 13, 2021, in the amount of \$6,316.25 related to Scheduling and implementing LID Manual Technical Training.
 - d) Nevada Division of Environmental Protection Invoice #5734, dated 05/07/21, in the amount of \$1,276.00 for Annual Review and Services Fees for Permit NVS000001.
 - e) Truckee Meadows Parks Foundation Invoice #201, dated 04/28/21, in the amount of \$300 for a new Dog Waste Bag Station.
8. Review, discussion and direction on Cardno's Structural Control and LID Training to be held virtually June 8 and 9, 2021. (For Possible Action)
9. Review, discussion and direction on proposed City of Reno's Virtual SWPPP/BMP Training for local agency inspectors.. (For Possible Action)

10. Review, discussion and possible approval of proposed educational watershed pamphlet distribution through TMWA water bill, general distribution during events, and/or social media outlets. Quotes for the pamphlet distribution, dated April 23, 2021 and May 12, 2021, is in the amount of \$3,263.7 or \$3,177.7, for heavy weight or standard weight paper. (For Possible Action)
11. Review, discussion and possible comment on Chapter 5 “Storm Water and Watershed-Based Water Quality Planning” for the 2021 Regional Water Management Plan update. (For Possible Action)
12. Review of 3rd Quarter SWPCC budget (January through March)
13. Review, discussion and possible approval of FY22 SWPCC Budget (For Possible Action)
14. Standing Agenda Item: Update on Stormwater Management Program activities including but not limited to Construction, Industrial, Monitoring, Public Outreach, Maintenance, IDDE, and Post Construction elements in support of the Truckee Meadows Storm Water Program as set forth below.
 - a) Technical Working Group (TWG) for advancing the One Truckee River Vegetation Management Plan
 - b) SWPCC stenciling project for KTMB’s Great Community Cleanup, May 1
 - c) KTMB’s May Biannual Teacher Training
 - d) TMPF’s Dog Waste Bag Station
15. Standing Agenda Item: Updates on Source Water and Watershed Protection Stakeholder effort, Watershed Management and Protection Plan for Tributaries to the Truckee River activities, One Truckee River activities, and other efforts.
16. Standing Agenda Item: Update on Nevada Division of Environmental Protection’s activities regarding federal, state, and local matters.
17. Standing Agenda Item: Update on Nevada Department of Transportation activities regarding MS4 activities.
18. Standing Agenda Item: Updates on grants and funding opportunities and projects, public presentations, volunteer opportunities and events, trainings, workshops, and conferences.
19. Discussion and possible direction on setting the next regular meeting for June 24, 2021. (For Possible Action)
20. PUBLIC COMMENT – This is for general public comment limited to items that do not appear on the agenda and is limited to no more than **three (3) minutes** for each commentator. Pursuant to NRS 241.020, no action may be taken upon a matter raised under this item until the matter has been specifically included in an agenda.

21. Adjournment. (For Possible Action)

MEETING MINUTES
TRUCKEE MEADOWS STORMWATER PERMIT
COORDINATING COMMITTEE

Thursday, March 25, 2021

The regular meeting of the Truckee Meadows Storm Water Permit Coordinating Committee (SWPCC) was held via Zoom and conducted the following business:

1. Call Meeting to Order

The meeting was called to order by Chair Pehrson at 9:00 a.m. and a quorum was present.

2. Roll Call

Members Present: Theresa Jones, SWPCC Coordinator; James Pehrson, Chair; Cody McDougall; Kevin Porter; Walter West; Jennifer Heeran

Members Absent: None

Staff and Guests Present: Susan Ball Rothe, Legal Counsel; Daniel Moss, City of Reno Project Coordinator; Ben Trustman, Balance Hydrologics; Jill Sutherland, Resource Concepts; Peter Lassaline, NDEP

3. Public Comment

Coordinator Jones reported that she received a clarification from Carrie Jensen, Urban Ecology Solutions, for the agenda stating that the River-Friendly Landscaping and Promoting Pollinators is a One Truckee River effort taught by Ms. Jensen and funded by the Western Regional Water Commission (WRWC).

4. Approval of Agenda (For Possible Action)

MEMBER PORTER MADE A MOTION TO APPROVE THE AGENDA, SECONDED BY MEMBER MCDUGALL. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

5. Approval of Meeting Minutes for February 25, 2021 SWPCC meeting (For Possible Action)

MEMBER WEST MADE A MOTION TO APPROVE THE FEBRUARY 25, 2021 MEETING MINUTES, SECONDED BY COORDINATOR JONES. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

6. Review and possible approval for payment of below invoice. The City will pay the invoice and seek 75% reimbursement from the Water Management Fund from the Western Regional Water Commission and 25% reimbursement from the Nevada Department of Transportation per the Interlocal Agreements. (For Possible Action)

- a) Balance Invoice #213136-0221, dated February 25, 2021, in the amount of \$7,680.79 related to Stormwater Monitoring for FY20/21

MEMBER PORTER MADE A MOTION TO APPROVE, SECONDED BY COORDINATOR JONES. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

7. Review and possible approval for payment of below invoice. The City will seek reimbursement from the Water Management Fund from the Western Regional Water Commission (WRWC) per the Interlocal Agreement. (For Possible Action)

- a) A-#1 Chemical Invoice/Order No. 56733/00 (025892), dated March 12, 2021, in the amount of \$2,495.01 for purchase of 21 cases of dog waste bags for donation to Truckee Meadows Parks Foundation, for FY20/21

MEMBER WEST MADE A MOTION TO APPROVE, SECONDED BY MEMBER PORTER. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

8. Review and discussion of proposed Balance Scope of Work to continue the stormwater monitoring program for FY 21/22 and possible approval and direction to enter into an agreement with Balance. (For Possible Action)

Ben Trustman, Balance Hydrologics, gave the presentation. This Scope of Work adds a trends analysis for the Annual Report and an additional storm sample to be collected at each of the four urban outfalls. The presentation included review of the proposed schedule and anticipated costs.

Coordinator Jones stated the proposed budget increase to prepare for six SWPCC meetings sounds reasonable. The \$8,400 increase for the trends analysis will not need to be done every year. She suggested including in every five years.

Mr. Trustman agreed that every five years for trends analysis seems like the right idea. He also reported that one of the Nevada Department of Transportation's (NDOT's) comments was about measuring snowmelt as stormwater runoff. Mr. Trustman has done some analysis and identified a couple of locations where we could do snowmelt runoff sampling.

Member Porter stated that he thinks the budget is appropriate for the Scope of Work.

COORDINATOR JONES MADE A MOTION TO APPROVE THE SCOPE OF WORK, SECONDED BY CHAIR PEHRSON. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT

9. Review of NDEP comments to 19/20 Annual Report and possible direction thereon. (For Possible Action)

Coordinator Jones reported on comments from the Nevada Division of Environmental Protection (NDEP) on the 19/20 Annual Report. NDEP requested additional language to several sections of the Annual Report to address specific line items in the MS4 Permit.

The addendum includes: email from NDEP with permit sections where more information is being requested; updated BMP Review addressing II.B.3 BMP and program examination process; updated Post Construction Summary addressing IV.F.5.b regarding impact of post construction on water supply; updated Government Coordination sheet addressing IV.M.2 list of annexed areas; updated Government Coordination compliance statement addressing V.C.3.i "impacts to groundwater"; and SWPCC Meeting Roadmap for FY addressing V.C.3.f in further detail.

This will be resubmitted to NDEP to finalize the report.

Member Porter stated that Sparks has an annexed area they are still working on and will get that information to Nick Brothers.

COORDINATOR JONES MADE A MOTION TO APPROVE THE CHANGES NICK BROTHERS HAS MADE AND WE WILL SUBMIT TO NDEP ONCE WE RECEIVE THE

ANNEX INFORMATION FROM THE CITY OF SPARKS, SECONDED BY MEMBER PORTER. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

10. Approval to purchase storm drain stencils for stenciling kits to be used at various public outreach events. Purchase amount not to exceed \$2,000. (For Possible Action)

Daniel Moss, City of Reno, reported that in the last month Keep Truckee Meadows Beautiful (KTMB) has requested the use of the stenciling kits for an expanded stenciling effort in the outer reaches of the Truckee Meadows Water Authority (TMWA) utility areas. After checking the stenciling kit supplies, it was determined that more stencils need to be ordered. The last time any were ordered was in 2014 and there are now only three of the original 60 stencils left. This request is for about 30 new stencils.

Coordinator Jones stated the cost for the new stencils will only be around \$600. She discussed the positive public outreach of the stenciling program and stated it is a worthwhile program to continue.

COORDINATOR JONES MADE A MOTION TO APPROVE THIS PURCHASE, SECONDED BY MEMBER WEST. THE MOTION CARRIED UNANIMOUSLY WITH FIVE (5) MEMBERS PRESENT.

11. Standing Agenda Item: Updates on Stormwater Management Program (SWMP) activities including but not limited to Construction, Industrial, Monitoring, Public Outreach, Maintenance, IDDE, and Post Construction elements in support of the Truckee Meadows Storm Water Program.

Mr. Moss provide a brief update on the following items:

- a) Stencil equipment moved back to Maintenance Yard, restocking in progress
- b) Preparing outreach pamphlet and new logo, for distribution through TMWA water bill and/or with social media
- c) Preparing for updating TRIG (Truckee River Info Gateway) website with updated water quality data
- d) Updated tmstormwater.com with upcoming events, Annual Monitoring Report, IDDE PSAs, etc.
- e) Daniel Moss reaching out to KTMB & NDEP to pursue watershed education training programs
- f) Attending Carrie Jensen's public presentations of River-Friendly Landscaping, and Promoting Pollinators

12. Standing Agenda Item: Updates on Source Water and Watershed Protection Stakeholder effort, Watershed Management and Protection Plan for Tributaries to the Truckee River activities, One Truckee River activities, and other efforts.

Jill Sutherland, Resource Concepts, provided an update on the status of the review of the Source Water and Watershed Protection effort by the Environmental Protection Agency (EPA). The EPA is currently looking at it and the feedback we have received so far is very positive. We don't have any written comments yet.

13. Standing Agenda Item: Update on Nevada Division of Environmental Protection's activities regarding federal, state, and local matters.

Peter Lassaline, NDEP, reported that they have started working on the draft permit and it will be a couple of months before the SWPCC sees a draft for comments.

14. Standing Agenda Item: Update on Nevada Department of Transportation activities regarding MS4 activities.

No update provided.

15. Standing Agenda Item: Updates on grants and funding opportunities and projects, public presentations, volunteer opportunities and events, trainings, workshops, and conferences.

No update provided.

16. Discussion and possible direction on setting the next regular meeting for April 22, 2021. (For Possible Action)

The next regular meeting date was confirmed for April 22, 2021.

17. Public Comment

None

18. Adjournment (For Possible Action)

The meeting was adjourned at 10:41 a.m.

Respectfully submitted by,
Christine Birmingham, Recording Secretary

MEETING MINUTES
TRUCKEE MEADOWS STORMWATER PERMIT
COORDINATING COMMITTEE

Thursday, April 22, 2021

The regular meeting of the Truckee Meadows Storm Water Permit Coordinating Committee (SWPCC) was held via Zoom and conducted the following business:

1. Call Meeting to Order

The meeting was called to order by Chair Pehrson at 9:03 a.m. and a quorum was present.

2. Roll Call

Members Present: Theresa Jones, SWPCC Coordinator; James Pehrson, Chair; Jennifer Heeran; Cody McDougall; Kevin Porter; Walter West

Members Absent: None

Staff and Guests Present: Susan Ball Rothe, Legal Counsel; Daniel Moss, City of Reno Project Coordinator; Birgit Widegren, NDEP; Peter Lassaline, NDEP

3. Public Comment

None

4. Approval of Agenda (For Possible Action)

MEMBER PORTER MADE A MOTION TO APPROVE THE AGENDA, SECONDED BY MEMBER WEST. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

5. Approval of Meeting Minutes for March 25, 2021 SWPCC meeting (For Possible Action)

The March meeting minutes were not included in the meeting packet so this item was continued to next month.

6. Review and possible approval for payment of below invoice. The City will pay the invoice and seek 75% reimbursement from the Water Management Fund from the Western Regional Water Commission and 25% reimbursement from the Nevada Department of Transportation per the Interlocal Agreements. (For Possible Action)

- a) Balance Invoice #213136-0321, dated April 8, 2021, in the amount of \$4,837.21 related to Stormwater Monitoring for FY20/21

MEMBER WEST MADE A MOTION TO APPROVE, SECONDED BY COORDINATOR JONES. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

7. Review and possible approval for payment of below invoices and receipt. The City will seek reimbursement from the Water Management Fund from the Western Regional Water Commission (WRWC) per the Interlocal Agreement. (For Possible Action)

- a) Signs by Tomorrow Invoice/Order No. 90359, dated April 1, 2021, in the amount of \$495.00 for purchase of 33 stencils for use in the Stenciling Program

- b) Cardno Invoice #309223, dated March 25, 2021, in the amount of \$836.25 related to scheduling and implementing LID Manual Technical Training

MEMBER HEERAN MADE A MOTION TO APPROVE, SECONDED BY MEMBER PORTER. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

8. Review and possible approval of request by Truckee Meadows Parks Foundation to purchase a new Dog Waste Bag Station at the Lower Peavine Creek Reservoir (park), in the amount of \$300. (For Possible Action)

Daniel Moss, City of Reno, presented the opportunity for the committee to sponsor this Dog Waste Bag Station. The Truckee Meadows Parks Foundation normally installs them for \$500.00 and is willing to install this station at a discount for us of \$300.00. This would be a one-time cost and would be added to the list of stations that the Parks Foundation keeps supplied with bags.

MEMBER PORTER MADE A MOTION TO APPROVE, SECONDED BY COORDINATOR JONES. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT

9. Review and discussion of proposed USGS Scope of Work to continue the stormwater monitoring program for FY 21/22 and possible approval and direction to enter into an agreement with USGS. (For Possible Action)

- a) USGS proposed total operations and maintenance costs for program activities during period of July 1, 2021 to June 30, 2022, in the amount of \$19,900, related to the surface-water monitoring program on the North Truckee Drain near Big Fish Drive near Sparks, NV

Coordinator Jones stated this is a continuation of our annual agreement with USGS to maintain the gage on the North Truckee Drain.

COORDINATOR JONES MADE A MOTION TO APPROVE, SECONDED BY CHAIR PEHRSON. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

10. Review and discussion of proposed future maintenance by SWPCC for the TRIG website (Truckee River Info Gateway). (For Possible Action)

Coordinator Jones presented information included in the Addendum for this agenda item in the meeting packet regarding recent discussions on the original intent and current use of the TRIG website. There needs to be discussion to determine the value of keeping it going and who would maintain it. Several agencies have shown interest in keeping the website going.

Member West stated he thought it may have been mandated or the Northern Nevada Water Planning Commission (NNWPC) wanted us to develop something like this for data sharing.

Susan Ball Rothe, Legal Counsel, stated she does not remember it being a mandate.

Coordinator Jones stated the archived data is important but nobody is really adding to it.

Member West stated maybe the avenue suggested in the Addendum regarding using a national database should be explored if the website is not functioning as intended. He also noted that the tmstormwater.com website is for MS4 information.

Coordinator Jones stated it gets cumbersome without a dedicated manager for the site to keep it updated. Personnel is short at the City of Reno for taking on the management of the website.

Member Porter stated he understands the point that it is difficult to maintain and somewhat out of the purview of what Reno personnel are managing for SWPCC. He does not want to see the idea for a centralized data go away and agreed with the suggestion to take time to think about different options for maintaining the data. He suggested providing links to TRIG on each entity's website.

Coordinator Jones agreed that providing links to TRIG on other sites might help. A larger discussion needs to happen and she suggested bringing this back for further discussion with input from Chris Wessel and other agencies in June.

COORDINATOR JONES MADE A MOTION TO BRING THIS BACK IN JUNE, SECONDED BY CHAIR PEHRSON. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

11. Review, discussion and possible approval of proposed outreach and new logo for distribution through TMWA water bill and/or social media outlets. (For Possible Action)

Mr. Moss discussed the proposed new logo and sample tri-fold pamphlet in the meeting packet. The estimated cost would be between two and three thousand dollars to print the pamphlets.

Member West expressed concern that inserts in bills usually go in the garbage. He likes the idea of the pamphlet but whether it goes in the water bill is another question. He also noted that a lot of bills are sent digitally now.

Coordinator Jones stated that is a good point but TMWA does still send out 100,000 envelopes each month.

Member Porter stated he likes the pamphlet regardless of how we decide to distribute it. He suggested distributing digitally through social media channels.

Coordinator Jones stated she is hearing that the committee overall is supportive of a new logo design and a tri-fold pamphlet. She can work internally with City of Reno marketing people to present something professional to the committee when it is ready. Maybe at that time we can decide on distribution.

COORDINATOR JONES MADE A MOTION TO DIRECT MR. MOSS TO WORK ON THAT AND BRING IT BACK TO THE COMMITTEE IN MAY OR JUNE, SECONDED BY CHAIR PEHRSON. THE MOTION CARRIED UNANIMOUSLY WITH SIX (6) MEMBERS PRESENT.

12. Standing Agenda Item: Updates on Stormwater Management Program (SWMP) activities including but not limited to Construction, Industrial, Monitoring, Public Outreach, Maintenance, IDDE, and Post Construction elements in support of the Truckee Meadows Storm Water Program as set forth below.

- a) SWPCC will partner with KTMB and be a co-presenter in their Biannual Teacher Trainings. NDEP will step out of this position starting June 2021. This is provide great outreach opportunities

Mr. Moss stated he will be attending one of the trainings presented by KTMB on May 15. NDEP has been a partner with KTMB in these presentations and wants to step down from that role. The City of Reno was contacted through professional connections and it was decided that this would be a good thing for Mr. Moss to help lead and provide part of the training education for the teachers. This happens twice a year.

- b) SWPCC planning to help plan and coordinate future One Truckee River's River-Friendly Landscaping presentations specifically for HOAs

Mr. Moss and Coordinator Jones discussed with One Truckee River (OTR) about how to tailor these presentations to HOAs to provide them an educational component about what the most optimal environmentally friendly landscaping could be but not require any changes to their CC&Rs.

Coordinator Jones confirmed that when this idea first came up nothing was discussed about ever dictating to HOAs to change their CC&Rs. There is some contradiction between stabilization of soils and what is already in some HOA CC&Rs so there is an opportunity to educate them on things like DG gravel not being the best buffer strip between lawn and sidewalk.

Member West noted that developers and landscape architects are actually planning this stuff.

Coordinator Jones stated that is a good point and it was part of the conversations as well to reach out to them before everything is built out.

Member West reported he is working with Mr. Moss on scheduling storm drain stenciling in the Mt. Rose Corridor area in May.

13. Standing Agenda Item: Updates on Source Water and Watershed Protection Stakeholder effort, Watershed Management and Protection Plan for Tributaries to the Truckee River activities, One Truckee River activities, and other efforts.

Birgit Widegren, NDEP, reported they have presented all the components of the Tributary Plan and the Source Water Watershed Plan to the EPA at the beginning of this year. They got back to us with additional comments. One comment is to create some kind of adaptive management feedback plan so that we are looking at it within a certain amount of time for updates. We are working on responding to that.

14. Standing Agenda Item: Update on Nevada Division of Environmental Protection's activities regarding federal, state, and local matters.

Peter Lassaline, NDEP, reported that the annual report addendum they requested has been approved and no further action is needed on that. Work on the draft permit continues.

15. Standing Agenda Item: Update on Nevada Department of Transportation activities regarding MS4 activities.

No update provided.

16. Standing Agenda Item: Updates on grants and funding opportunities and projects, public presentations, volunteer opportunities and events, trainings, workshops, and conferences.

Coordinator Jones reported that she will be presenting on the Tributary Watershed effort at the Tri State Conference in Las Vegas this August.

17. Discussion and possible direction on setting the next regular meeting for May 27, 2021. (For Possible Action)

The next regular meeting date was confirmed for May 27, 2021.

18. Public Comment

None

19. Adjournment (For Possible Action)

The meeting was adjourned at 10:01 a.m.

Respectfully submitted by,
Christine Birmingham, Recording Secretary

Approved for payment upon
approval by SWPCC on 05/27/21



**Balance
Hydrologics, Inc.**[®]

Theresa Jones

800 Bancroft Way • Suite 101 • Berkeley, CA 94710 • (510) 704-1000
www.balancehydro.com • email: office@balancehydro.com

Invoice

Theresa Jones
City of Reno
1 East First Street
7th Floor
Reno, NV 89501

Terms: Due Upon Receipt

Invoice #	Date	Amount Due
213136-0421	04/26/21	\$ 8,232.71

Project Manager: Benjamin Trustman
Project Number: 213136:Ph7
Job Description: City of Reno Stormwater
Billing Through: 04/17/21
Contract/PO#:

SUMMARY OF CHARGES

	Amount
02 Stormwater Sampling	\$885.00
03 Tributary Ambient Sampling (2x)	\$3,185.00
04 Streamflow gaging (5 gages)	\$90.00
05 Committee Meetings and Presentations	\$505.00
06 Project Management and Correspondence	\$475.00
Expenses	\$3,092.71
Amount Due This Invoice:	\$8,232.71

Task 2. Stormwater Sampling

- 1) Weather analysis
- 2) Coordination re: storm sampling
- 3) Storm totals review
- 4) Bottle labeling

Task 3 Tributary Ambient Sampling

- 1) ISCO set up for non-storm sampling
- 2) Grab sample collection
- 3) YSI calibration
- 4) Flow sheet work up and QA/QC
- 5) Data transfer
- 6) Obs logs updates

Task 4 Streamflow gaging

- 1) Review obs logs and downloaded data

Task 5 Committee Meetings and Presentations

- 1) Prep for committee meeting with review of tmstormwater.com and TRIG
- 2) SWPCC meeting attendance

Task 6 Project management and correspondence

- 1) Project management

Expenses: Field supplies; Analytical costs for ambient sampling; mileage

PLEASE REMIT TO THE BERKELEY ADDRESS ABOVE

Questions regarding progress of work may be directed to the Project Manager (name above). Questions regarding billing, payment and certificates of insurance should be directed to Rachel Boitano @ (510) 704-1000 x245.



Invoice

Theresa Jones
City of Reno
1 East First Street
7th Floor
Reno, NV 89501

Invoice #	Date	Amount Due
213136-0421	04/26/21	\$ 8,232.71

Project Manager: Benjamin Trustman
Project Number: 213136:Ph7
Job Description: City of Reno Stormwater
Billing Through: 04/17/21
Contract/PO#:

Terms: Due Upon Receipt

BREAKDOWN OF TIME CHARGES	Rate	Hours	Amount
Principal	\$220.00	0.50	\$110.00
Project Professional	\$180.00	2.75	\$495.00
Staff Professional	\$140.00	31.50	\$4,410.00
Senior Project Administrator	\$125.00	1.00	\$125.00
Total Time Charges:			\$5,140.00

BREAKDOWN OF EXPENSES	Quantity	Rate	Amount
Field Supplies	1.00	\$14.27	\$14.27
Laboratories	2.00	\$1,464.98	\$2,929.96
Mileage Reimbursement - Truck	232.00	\$0.640	\$148.48
Total Expenses:			\$3,092.71

PLEASE REMIT TO THE BERKELEY ADDRESS ABOVE

Questions regarding progress of work may be directed to the Project Manager (name above). Questions regarding billing, payment and certificates of insurance should be directed to Rachel Boitano @ (510) 704-1000 x245.

Truckee Meadows Stormwater Monitoring
 City of Reno
 Balance Project # 213136 PH7

Tasks & Allocation of Budget

Task	\$ Allocated	Previous	This Invoice	Total Expended		Budget Remaining	
		Expenditures	(#213136-0421)	\$ amt	\$ amt	\$ amt	%
01 Data Analysis and Annual Report (FY2020)	\$40,450.00	\$40,520.00		\$40,520.00	100%	-\$70.00	0%
02 Stormwater Sampling (outfalls and tributaries)	\$42,350.00	\$23,310.00	\$885.00	\$24,195.00	57%	\$18,155.00	43%
03 Tributary Ambient Sampling (2x)	\$10,400.00	\$3,990.00	\$3,185.00	\$7,175.00	69%	\$3,225.00	31%
04 Streamflow Gaging (4 gages)	\$20,870.00	\$8,670.00	\$90.00	\$8,760.00	42%	\$12,110.00	58%
05 Committee Meetings and Presentations	\$6,120.00	\$2,365.00	\$505.00	\$2,870.00	47%	\$3,250.00	53%
06 Project Management and Correspondence	\$8,200.00	\$6,792.50	\$475.00	\$7,267.50	89%	\$932.50	11%
Total Labor	\$128,390.00	\$85,647.50	\$5,140.00	\$90,787.50	71%	\$37,602.50	29.3%
Direct Costs	\$3,286.00	\$2,538.21	\$162.75	\$2,700.96	82%	\$585.04	18%
Analytical Costs	\$20,800.00	\$10,560.72	\$2,929.96	\$13,490.68	65%	\$7,309.32	35%
Contingency	\$10,271.20	\$4,880.00		\$4,880.00	48%	\$5,391.20	52%
		\$103,626.43	\$8,232.71	\$111,859.14	69%		

Total Allocated (including contingency)	\$162,747.20		
Total Expended (including current invoice)		\$111,859.14	
Total remaining			\$50,888.06

213126
SAFeway

Store 1266 Dir Jael Uhl
Main:(530) 582-7950 Rx:(530) 582-7952
11290 Donner Pass Rd.
TRUCKEE CA 96161

REFRIG/FROZEN

2 QTY PARTY BAG 11.98 B
TAX 0.99
**** BALANCE 12.97

Credit Purchase 03/29/21 08:19
CARD # *****4316
REF: 781948443160 AUTH: 00121596

PAYMENT AMOUNT 12.97

AL
AID A0000000980840
TVR 0000000000
TSI 0000

Visa 12.97
CHANGE 0.00
TOTAL NUMBER OF ITEMS SOLD = 2
03/29/21 08:19 1266 6 33 7383

POINTS EARNED TODAY

Base Points 11

TOTAL 11

Points Towards Next Reward 12 of 100

REWARDS AVAILABLE 6

MONOPOLY 2021

Customer Blue Tickets

YOUR CASHIER TODAY WAS Correen



just for U

Thank you for being
one of our best customers!

text SWY to 48388 to
earn and save more



Thank you for shopping Safeway
just for U or Rewards questions
1-800-777-276-9637 or Safeway.com

Western Environmental Testing Laboratory

475 E. Greg St, #119

Invoice

Date	Invoice #
4/13/2021	131654

Bill To
Balance Hydrologies 800 Bancroft Berkley, CA 94710 Attn: Brian Hastings

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
	21030851-001 / CSID: NTD@ORD / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-002 / CSID: SBC@RHR / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	Quant [SM 9223B (Quantitray)]	36.00	36.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-003 / CSID: SBC@MTR / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-004 / CSID: NTD@BFD (1) / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-005 / CSID: WC@OVH / Received: 3/29/2021		

Thank you for your business. Please call us if you have any questions at (775) 355-0202.

Total

Western Environmental Testing Laboratory

475 E. Greg St, #119

Invoice

Date	Invoice #
4/13/2021	131654

Bill To
Balance Hydrologies 800 Bancroft Berkley, CA 94710 Attn: Brian Hastings

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	Quant [SM 9223B (Quantitray)]	36.00	36.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-006 / CSID: TC@SMP / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-007 / CSID: EC@KL / Received: 3/29/2021		
2	ANIONS_Low [EPA 300.0]	18.00	36.00
1	O-P [SM 4500-P E]	22.00	22.00
1	Quant [SM 9223B (Quantitray)]	36.00	36.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030851-008 / CSID: SBC@NAR / Received: 3/29/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
1	Admin Fee	25.00	25.00

Thank you for your business. Please call us if you have any questions at (775) 355-0202.

Total

Western Environmental Testing Laboratory

475 E. Greg St, #119

Invoice

Date	Invoice #
4/13/2021	131654

Bill To
Balance Hydrologies 800 Bancroft Berkeley, CA 94710 Attn: Brian Hastings

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
1	DISCOUNT - 10%	-135.20	-135.20
Thank you for your business. Please call us if you have any questions at (775) 355-0202.		Total	\$1,241.80

Western Environmental Testing Laboratory

475 E. Greg St, #119

Invoice

Date	Invoice #
4/14/2021	131699

Bill To
Balance Hydrologies 800 Bancroft Berkley, CA 94710 Attn: Brian Hastings

Payment Information	
Check Payments sent to: 475 E. Greg St, #119 Sparks, NV - 89431	Remittance Notice: Accounting@wetlaboratory.com
Made out to: Western Environmental Testing Laboratory	
Credit Card Payment VISA - MasterCard - Amex add 3% Service Fee	

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
	21030900-001 / CSID: CC @ CB / Received: 3/30/2021		
2	ANIONS_Low [EPA 300.0]	18.00	36.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-002 / CSID: BS @ SBC (1) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-003 / CSID: BS @ SBC (2) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-004 / CSID: BS @ SBC (3) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-005 / CSID: BS @ SBC (4) / Received: 3/30/2021		

Thank you for your business. Please call us if you have any questions at (775) 355-0202.	Total
	Payments/Credits
	Balance Due

1.5% Service Charge on Accounts Over 30 Days 18% Annual Rate

Western Environmental Testing Laboratory

475 E. Greg St, #119

Invoice

Date	Invoice #
4/14/2021	131699

Bill To
Balance Hydrologies 800 Bancroft Berkley, CA 94710 Attn: Brian Hastings

Payment Information	
Check Payments sent to: 475 E. Greg St, #119 Sparks, NV - 89431	Remittance Notice: Accounting@wetlaboratory.com
Made out to: Western Environmental Testing Laboratory	
Credit Card Payment VISA - MasterCard - Amex add 3% Service Fee	

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-006 / CSID: YD @ SBC (1) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-007 / CSID: SBC @ CWW (1) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-008 / CSID: SBC @ CWW (2) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-009 / CSID: SBC @ CWW (3) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00

Thank you for your business. Please call us if you have any questions at (775) 355-0202.	Total
	Payments/Credits
	Balance Due
1.5% Service Charge on Accounts Over 30 Days 18% Annual Rate	

Invoice

Date	Invoice #
4/14/2021	131699

Bill To
Balance Hydrologies 800 Bancroft Berkley, CA 94710 Attn: Brian Hastings

Payment Information	
Check Payments sent to: 475 E. Greg St, #119 Sparks, NV - 89431	Remittance Notice: Accounting@wetlaboratory.com
Made out to: Western Environmental Testing Laboratory	
Credit Card Payment VISA - MasterCard - Amex add 3% Service Fee	

P.O. No.	Terms	Project
213136	Net 30	

Quantity	Description	Rate	Amount
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
	21030900-010 / CSID: SBC @ CWW (4) / Received: 3/30/2021		
1	NO3+NO2_lachat (LOW) [EPA 353.2]	24.00	24.00
1	O-P [SM 4500-P E]	22.00	22.00
1	TDS with Prep	18.00	18.00
1	TKN_Low [EPA 351.2]	48.00	48.00
1	T-N_low [Calc.]	0.00	0.00
1	T-P [SM 4500-P E]	24.00	24.00
1	TSS_mu07 [SM 2540D]	18.00	18.00
1	Admin Fee	25.00	25.00
1	DISCOUNT	-155.20	-155.20

Thank you for your business. Please call us if you have any questions at (775) 355-0202. 1.5% Service Charge on Accounts Over 30 Days 18% Annual Rate	Total	\$1,421.80
	Payments/Credits	\$0.00
	Balance Due	\$1,421.80



Approved for payment upon
approval by SWPCC on 5/27/21

Theresa Jones

INVOICE

Check Remittance:
Cardno, Inc.
PO BOX 123422
Dallas TX 75312-3422

EFT Remittance:
Account Name: Cardno, Inc.
Bank Name: HSBC Bank USA, NA
Routing Number: 022000020 | ABA Number: 021001088
Account Number: 447006894
Email Notification: CBS.EFT@cardno.com
Taxpayer ID No. 45-2663666

Phone: 720 257 5800 | Fax: 303-945-7159 | Web: www.cardno.com

Please include an invoice copy with payment or reference the invoice number(s) and project number(s) on your remittance.

City of Reno
Theresa Jones
One East First Street
PO Box 1900
Reno NV 89505

Invoice # : 311134
Project : E320405900
Invoice Date : May 04, 2021
Project Manager : Gookin, Mark W.
Terms : 30 Days

Truckee Meadows SWPCC Structural Control & LID Manual Technical Training Expanded Scope

For Professional Services Rendered Through: 3/26/2021

Phase : 0100 - Develop Technical Training Curriculum

Professional Personnel

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
Senior Project Coordinator Browning, Lori A.	0.25	105.00	26.25
Senior Staff Engineer 1 Li, Vahina	1.00	125.00	125.00
Total Professional Personnel	1.25		151.25
Labor			151.25
Total This Phase			\$151.25

Phase : 0200 - Schedule & Implement Technical Training

Professional Personnel

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
Senior Consultant 2 Gookin, Mark W.	3.50	245.00	857.50
Senior Staff Engineer 1 Li, Vahina	11.75	125.00	1,468.75
Total Professional Personnel	15.25		2,326.25
Labor			2,326.25
Total This Phase			\$2,326.25

Amount Due This Invoice **\$2,477.50**

	Current	Prior	Total
Billings to Date	2,477.50	743.75	3,221.25
Project Limit			14,948.00
Remaining			11,726.75

Outstanding Invoices

Number	Date	Balance
311134	05/04/2021	2,477.50
Total Now Due		2,477.50

Aging Balances

<u>Under 30</u>	<u>31 - 60</u>	<u>61 - 90</u>	<u>Over 90</u>
2,477.50	0.00	0.00	0.00

Billing Backup

Tuesday, May 4, 2021

Phase : 0100 - Develop Technical Training Curriculum

Professional Personnel

<u>Class / Employee Name</u>	<u>Date</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Senior Project Coordinator				
Browning, Lori A.				
Project Support	2/15/2021	0.25	105.00	26.25
Senior Staff Engineer 1				
Li, Vahina				
Discussion of and modifications to updates to technical training	3/4/2021	0.50	125.00	62.50
Discussion of hydrology figures and updates to tech training deliverables	3/23/2021	0.50	125.00	62.50

		1.00		125.00
Total Professional Personnel				151.25

Labor

151.25

Total This Phase

\$151.25

Phase : 0200 - Schedule & Implement Technical Training

Professional Personnel

<u>Class / Employee Name</u>	<u>Date</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Senior Consultant 2				
Gookin, Mark W.				
Expand tech training	3/19/2021	3.00	245.00	735.00
Presentation prep	3/25/2021	0.50	245.00	122.50

		3.50		857.50
Senior Staff Engineer 1				
Li, Vahina				
Development of technical training and addressing comments	3/4/2021	1.00	125.00	125.00
Development of design worksheet process and calculations for technical training	3/8/2021	0.75	125.00	93.75
Development of design worksheet process and calculations for technical training	3/9/2021	0.75	125.00	93.75
Development of design worksheet process and calculations for technical training	3/10/2021	4.00	125.00	500.00
Delineating basin for design worksheet example; creation of hydrologic map	3/11/2021	5.25	125.00	656.25
Delineating basin for design worksheet example; creation of hydrologic map		-----		
		11.75		1,468.75
Total Professional Personnel				2,326.25

Labor

2,326.25

Total This Phase

\$2,326.25

Total This Invoice

\$2,477.50

Approved for payment upon approval by SWPCC on 05/27/21



Check Remittance:
Cardno, Inc.
PO BOX 123422
Dallas TX 75312-3422

INVOICE

EFT Remittance:
Account Name: Cardno, Inc.
Bank Name: HSBC Bank USA, NA
Routing Number: 022000020 | ABA Number: 021001088
Account Number: 447006894
Email Notification: CBS.EFT@cardno.com
Taxpayer ID No. 45-2663666

Phone: 720 257 5800 | Fax: 303-945-7159 | Web: www.cardno.com

Please include an invoice copy with payment or reference the invoice number(s) and project number(s) on your remittance.

City of Reno
Theresa Jones
One East First Street
PO Box 1900
Reno NV 89505

Invoice # : 311135
Project : E320400200
Invoice Date : May 04, 2021
Project Manager : Gookin, Mark W.
Terms : 30 Days

Structural Control & LID Manual Technical Training for Truckee Meadows SWPCC

For Professional Services Rendered Through: 3/26/2021

Phase : 0200 - Schedule & Implement Technical Training

Professional Personnel

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
Senior Consultant			
Gookin, Mark W.	1.50	210.00	315.00
Senior Project Coordinator			
Browning, Lori A.	0.25	90.00	22.50
Total Professional Personnel	1.75		337.50
Labor			337.50
Total This Phase			\$337.50
Amount Due This Invoice			\$337.50

	Current	Prior	Total
Billings to Date	337.50	22,710.45	23,047.95
Project Limit			29,993.00
Remaining			6,945.05

Outstanding Invoices

Number	Date	Balance
311135	05/04/2021	337.50
309223	03/25/2021	836.25
Total Now Due		1,173.75

Aging Balances

Under 30	31 - 60	61 - 90	Over 90
337.50	836.25	0.00	0.00

Billing Backup

Tuesday, May 4, 2021

Phase : 0200 - Schedule & Implement Technical Training

Professional Personnel

<u>Class / Employee Name</u>	<u>Date</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
------------------------------	-------------	--------------	-------------	---------------

Senior Consultant

Gookin, Mark W.

	3/19/2021	1.00	210.00	210.00
Training materials	3/25/2021	0.50	210.00	105.00
Presentation prep		-----		-----
		1.50		315.00

Senior Project Coordinator

Browning, Lori A.

	3/25/2021	0.25	90.00	22.50
Project Support				

Total Professional Personnel				337.50
-------------------------------------	--	--	--	---------------

Labor	337.50
--------------	---------------

Total This Phase	\$337.50
-------------------------	-----------------

Total This Invoice	\$337.50
---------------------------	-----------------



OK to pay upon SWPCC
Approval on 5/27/21 *Theresa Jones*

EFT Remittance:

Account Name: Cardno, Inc.
Bank Name: HSBC Bank USA, NA
Routing Number: 022000020 | ABA Number: 021001088
Account Number: 447006894
Email Notification: CBS.EFT@cardno.com
Taxpayer ID No. 45-2663666

Check Remittance:
Cardno, Inc.
PO BOX 123422
Dallas TX 75312-3422

INVOICE

Phone: 720 257 5800 | Fax: 303-945-7159 | Web: www.cardno.com

Please include an invoice copy with payment or reference the invoice number(s) and project number(s) on your remittance.

City of Reno
Theresa Jones
One East First Street
PO Box 1900
Reno NV 89505

Invoice # : 311832
Project : E320405900
Invoice Date : May 13, 2021
Project Manager : Archer, Carey C.
Terms : 30 Days

Truckee Meadows SWPCC Structural Control & LID Manual Technical Training Expanded Scope

For Professional Services Rendered Through: 4/30/2021

Phase : 0100 - Develop Technical Training Curriculum

Professional Personnel

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
Senior Staff Engineer 1			
Li, Vahina	3.00	125.00	375.00
Staff Engineer			
Chadwick, Jessica	56.00	105.00	5,880.00
Total Professional Personnel	59.00		6,255.00
Labor			6,255.00
Total This Phase			\$6,255.00

Phase : 0200 - Schedule & Implement Technical Training

Professional Personnel

	<i>Hours</i>	<i>Rate</i>	<i>Amount</i>
Senior Consultant 2			
Gookin, Mark W.	0.25	245.00	61.25
Total Professional Personnel	0.25		61.25
Labor			61.25
Total This Phase			\$61.25

Amount Due This Invoice \$6,316.25

	Current	Prior	Total
Billings to Date	6,316.25	3,221.25	9,537.50
Project Limit			14,948.00
Remaining			5,410.50

Outstanding Invoices

Number	Date	Balance
311832	05/13/2021	6,316.25
311134	05/04/2021	2,477.50
Total Now Due		8,793.75

Aging Balances

<u>Under 30</u>	<u>31 - 60</u>	<u>61 - 90</u>	<u>Over 90</u>
8,793.75	0.00	0.00	0.00

Total This Invoice

\$6,316.25

Nevada Division of Environmental Protection
Bureau of Water Pollution Control
901 South Stewart Street, Ste 4001
Carson City, Nevada 89701-5249
Phone (775) 687-9418
INVOICE

Invoice ID: 5734 / Application ID: 5757

5/7/2021

FOR Site Name: CITY OF RENO, CITY OF SPARKS AND WASHOE
COUNTY MS4
Permit Num: NVS000001

ACCESS CODE: 1023751672

RECEIVED

MAY 12 2021

CITY OF RENO
Public Works Department

TO ENVIRONMENTAL ENGINEERING
CITY OF RENO
PO BOX 1900
RENO NV 89505

The fees identified on this invoice are determined from the following regulations:

Water Permit Fees (NS & NV) - NAC445A.232

General Permit Fees (GN) - NAC445A.268(5)

UIC Permit Fees (UNEV) - <https://ndep.nv.gov/uploads/water-wpc-permitting- ulc- stormwater-docs/ulcfees - may2017.pdf>

E-payment Option: In accordance with NRS 353.1467, payments to the state for \$10,000 or more must be paid electronically beginning July 1, 2008. Government entities are exempt.

To enable electronic fee payments, starting on July 1, 2008, NDEP will accept E-check payments of any amount through our secure website <https://epayments.ndep.nv.gov/>. Please use the following access code to make the online payment. (Access Code: 1023751672)

If paying by check please return this invoice with your payment and make checks payable to "NDEP-BWPC". Please write your Permit/Facility ID number or Invoice number on the check and remit payment to the address above.

To Terminate Coverage: To terminate coverage of a Nevada NPDES General Permit, the permittee must submit a Notice of Termination ("NOT") form when their facilities no longer have any discharges associated with Nevada NPDES General Permit. **Please note, any "NOTs" that come into our office after July 1st will be subject to pay the annual fee no matter the completion date of the project.**

Transfer of Ownership or Control: If control or ownership of the construction project changes, both the permittee and the succeeding owner or controller will complete a Notice of Change ("NOC") form in order to transfer permit coverage. All transfer of permits shall be approved by NDEP.

Fiscal Year	Due Date	Permit Number	Description	Amount Due
2022	7/1/2021	NVS000001	Annual Review and Services Fee	\$1,276

Purchase Orders are NOT accepted for Permit Fees.

***Please write the permit number on your check. Remit Payments to the address listed above.**

PLEASE RETURN THIS STUB WITH PAYMENT

Annual Review and Services Fee for Fiscal Year
2022

Bureau of Water Pollution Control

Invoice ID: 5734 / Application ID: 5757

Permit Num: NVS000001

Due Date: 7/1/2021

Amount Due: \$1,276

Corrections to Billing Address of Contact Person:

Organization: _____

Contact Name: _____

Address: _____

City / State/ Zip: _____

Phone: _____

Amount Remitted: \$ _____

Truckee Meadows Parks Foundation

50 Cowan Dr
Reno, NV 89509 US
7754530278
info@tmparksfoundation.org

Invoice

BILL TO
Stormwater Permit Coordinating Committee

INVOICE #	DATE	TOTAL DUE	DUE DATE	TERMS	ENCLOSED
201	04/28/2021	\$300.00	05/28/2021	Net 30	

DESCRIPTION	QTY	RATE	AMOUNT
Program Supplies Dog Waste Bag Station (Discount)	1	300.00	300.00
BALANCE DUE			\$300.00



FREE Class: Storm Water Compliance & BMPs for Construction Sites (Virtual)

Course Content:

- Overview of Storm Water protection
- Methods for Installation & Maintenance of Best Management Practices (BMPs)
 - The Permitting Process
 - Storm Water Pollution Prevention Plans (SWPPPs)
- Truckee Meadows - What Inspectors are looking for
- Online tools for assisting SWPPP development, project planning and permitting

***NV Construction Site BMP Field Guides will be provided free to all attendees**

***A certificate of attendance will be provided for Professional Development Hours (3 PDHs)**

**Wed or Thurs
June 23 or 24, 2021*
8:30 AM - 12:00 PM**

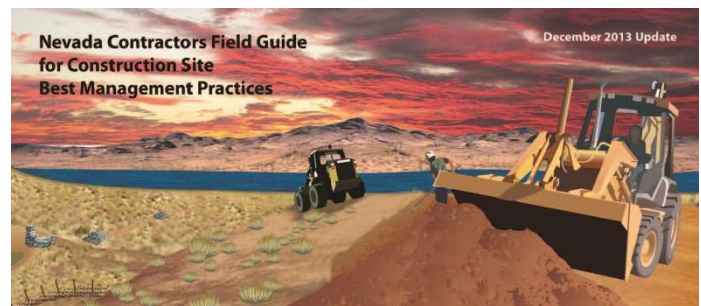
***Date will be chosen based on RSVPs. Both dates may be offered depending on interest.**

Register by emailing with the dates you are available.

A follow up email will confirm the presentation date(s).

**Registration Contact:
Daniel Moss
mossd@reno.gov**

**Virtual Format
(Link will be sent
after registration)**





Report a Problem

To report spills, illegal discharges, illicit connections, or local emergencies related to the storm drain system or the sanitary sewer system, send a message to Reno.Gov/RenoDirect or call:

City of Reno

Reno Direct: 334-INFO (4636)
After Hours Emergency: 722-4660

City of Sparks

Environmental Control: 861-4152
After Hours Emergency: 691-9227

State of Nevada

Nevada Department of Environmental Protection: 687-9429

Washoe County

Washoe311: 311 or 328-2003



CITY OF
RENO



City of
Sparks

Truckee Meadows Stormwater Permit Coordinating Committee (TMSWPCC)

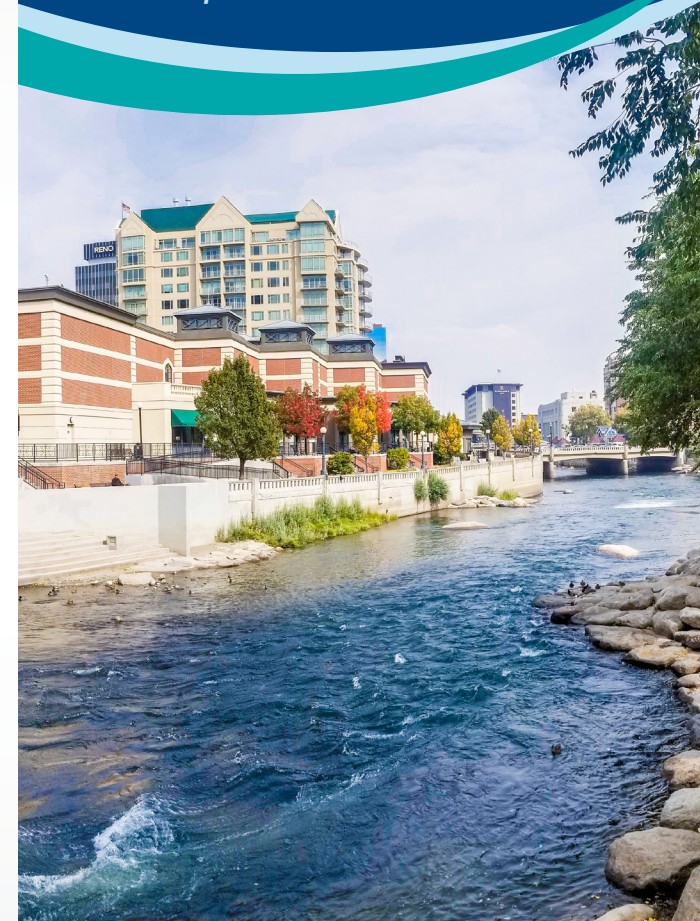
City of Reno | City of Sparks | Washoe County

Email: Stormwater@Reno.gov

Phone: 775-334-2350

PREVENT LOCAL STORMWATER POLLUTION

Keep our Truckee River Clean



This message is brought to you by



**TRUCKEE MEADOWS
STORMWATER PERMIT
COORDINATING COMMITTEE**
RENO · SPARKS · WASHOE COUNTY



How to prevent pollution

Look for prohibited discharges or other concerning activity that may enter the storm drain systems and contact us. Once contacted, we will send an inspector to solve the problem. Visit tmstormwater.com for more detailed information.

Remember, only rain in the stormdrain!



1 Proper home auto maintenance

- Clean up spills
- Use a car wash
- Dispose of fluids and waste properly
- Prevent leaks by keeping car well-maintained



2 Dispose of home chemicals properly

See disposal guide at: ktmb.org



3 Improve garden & lawn maintenance

- Conserve landscape irrigation (Don't overwater - No urban slobber!)
- Avoid raking/blowing leaves into street
- Use organic fertilizer



4 Pick up after pets

Do your part and pick it up!



5 Prohibited Discharges

- Sediment runoff from construction sites
- Commercial or residential car wash wastewater
- Sewer overflows
- Dumping of liquid waste, such as:
 - Chlorinated pool water
 - Water softener brine backwash
 - Reclaimed or recycled water

Where can you find storm drains?

Just look out your door!

The municipal storm sewer system is made up all infrastructure that transmits stormwater, including: curb and gutter, inlets, pipes, ditches, and channels. Stormwater flows untreated into local creeks and the Truckee River.



TRUCKEE RIVER FACTS



Drinking water

80% of TMWA customer's drinking water is supplied by Truckee River.



Truckee River's ecosystem

Mammals, birds, fish, amphibians, plants & insects species are essential to the river's ecosystem.



Prevent pollution

Ecosystem species and humans are highly sensitive and can become sick due to pesticides, herbicides, hazardous chemicals, etc. in the water.



When a storm hits, concentrated chemicals enter the river all at once

This is hard to contend with and causes long-term buildup in the river that leads into Pyramid Lake.

InfoSend, Inc.
 4240 E. La Palma Ave.
 Anaheim, CA 92807
 (714) 993-2690

Date: 5/12/2021

Account #	P.O. No.	Quote
IDC-000		Sample

Name / Address	
Truckee Meadows Water Authority, NV 1355 Capital Blvd Reno, NV 89502	
Contact:	Cammy Elquist LoRé
Contact Phone:	775-229-3606
Contact Email:	cammyelquist@gmail.com
Artwork:	PDF

Extra Copies Ship To:	
Proof:	PDF
Insert Name:	TMWA Buckslip June COR Stormwater
Run Dates::	06/01/2021-06/30/2021
Billing Instructions:	Regular Invoice

Item	Quantity	Description	Rate	Amount
INSERT	132,000	32116 (TMW) 8.5x3.67 4/4 Plain Uncoated White	0.0134	1,768.00
Inserting	132,000	Inserting Fee	0.009	1,188.00

		Subtotal	\$2,956.00
Prepared By: Marla Callaghan <marla.c@infosend.com>		Sales Tax (0.0%)	\$0.00
Approved By: _____		Total	\$2,956.00

PLEASE REMEMBER

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Sales tax (7.5%) = \$221.7
Total cost with tax = \$3,177.7

I have read and agreed to the Terms and Condition (Initial Here) _____

InfoSend, Inc.
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 Anaheim, CA 92807
 (714) 993-2690

Date: 4/23/2021

Account #	P.O. No.	Quote
		sample

Name / Address	
Truckee Meadows Water Authority, NV 1355 Capital Blvd Reno, NV 89502	
Contact:	Cammy Elquist
Contact Phone:	(775) 229-3606
Contact Email:	cammy@good-standing.com
Artwork:	PDF

Extra Copies Ship To:	
Proof:	PDF
Insert Name:	Buckslip Quote- Stormwater
Run Dates::	05/01/2021-05/31/2021
Billing Instructions:	Regular Invoice

Item	Quantity	Description	Rate	Amount
DC Manual-Inserts	132,000	Insert No: 32750 (TMW) Size: 8.5 x 3.66 Print Colors: 4/0 Paper Type: 80# Silk Matte	0.016	2,112.00T
DC Manual-Inserts	132,000	Insert with Statements:	0.007	924.00

		Subtotal	\$3,036.00
Prepared By: Marla Callaghan <marla.c@infosend.com>			Sales Tax (7.5%) 0.00
Approved By: _____			Total \$3,036.00

Sales tax (7.5%) = \$227.7 Total cost with tax = \$3,263.7

PLEASE REMEMBER

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- InfoSend may print overruns up to 10% over desired quantity to accommodate machine damages during statement processing.
- Any quotes given without samples or actual specifications are subject to change upon receipt of actual order and specs.

Terms: Net 30 days from date of invoice.

I have read and agreed to the Terms and Condition (Initial Here) _____

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List of Abbreviations and Acronyms

2003 Watershed Management Plan	Watershed Management and Protection Plan for Tributaries to the Truckee River
2016-2035 RWMP	2016-2035 Comprehensive Regional Water Management Plan
2020 Trib. Plan	2020 Watershed Management and Protection Plan for Tributaries to the Truckee River
2021-2040 RWMP	2021-2040 Comprehensive Regional Water Management Plan
ASCE	American Society of Civil Engineers
BANN	Builders Association of Northern Nevada
BMPs	Best Management Practices
CWA	Clean Water Act
DO	Dissolved Oxygen
DRP	Dissolved Reactive Phosphorus
EPA	United States Environmental Protection Agency
ERA	Ecological Resource Associates
Field Guide	Nevada Contractors Field Guide for Construction Site Best Management Practices
Focus Group	Truckee River WQS Focus Group
GIS	Geographic Information System
ISWPP	2020 Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows
KJC	Kennedy Jenks Consultants
Handbook	Truckee Meadows Construction Site BMP
Integrated Report	Nevada 2016-2018 Water Quality Integrated Report
KTMB	Keep Truckee Meadows Beautiful
LA	Load Allocation
lbs	Pounds
LID	Low Impact Development
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer Systems
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDSR	Post Construction New Development and Significant Redevelopment
NLT	Nevada Land Trust
NPDES	National Pollutant Discharge Elimination System
NRS	Nevada Revised Statutes
NTD	North Truckee Drain
OTR	One Truckee River
PAG	Professional Advisory Group
PLPT	Pyramid Lake Paiute Tribe
PM10	Particulate Matter

Regional Plan	Truckee Meadows Regional Plan
RWMF	Regional Water Management Fund
SAP	Sampling and Analysis Plan
SWMP	Truckee Meadows Regional Stormwater Quality Management Program
SWPCC	Stormwater Permit Coordinating Committee
SWPPP	Storm Water Pollution Prevention Plan
T-TSA	Tahoe-Truckee Sanitation Agency
TDS	Total Dissolved Solids
TMPF	Truckee Meadows Park Foundation
TMWA	Truckee Meadows Water Authority
TMWRF	Truckee Meadows Water Reclamation Facility
TN	Total Nitrogen
TNC	The Nature Conservancy
TP	Total Phosphorus
TRHSPF	Truckee River Hydrological Simulation Program FORTRAN
TRIG	Truckee River Information Gateway
TROM	Truckee River Operations Model
U.S.	United States
UNCE	University of Nevada Cooperative Extension
UNR	University of Nevada, Reno
USFWS	U.S. Fish and Wildlife Service
WARMF	Watershed Analysis Risk Management Framework
WCSD	Washoe County School District
Working Group	Truckee River WQS/TMDL Working Group
WLA	Waste Load Allocation
WOUS	Waters of the United States
WQCP	Water Quality Control Plan
WQS	Water Quality Standards
WRWC	Western Regional Water Commission

Chapter 5 Stormwater and Watershed-Based Water Quality Planning

5.0 Purpose and Scope

The purpose of this chapter is to provide background information, status of the regional stormwater and watershed-based water quality regulations, the Truckee Meadows Regional Stormwater Quality Management Program (SWMP), interagency and stakeholder collaboration, restoration projects, as well as key watershed management plans.

A 2016-2035 Comprehensive Regional Water Management Plan (2016-2035 RWMP) (Western Regional Water Commission (WRWC), Northern Nevada Water Planning Commission, 2017) was prepared and is now superseded by this document. The 2016-2035 RWMP included Chapter 4 titled: Wastewater and Watershed-Based Water Quality Planning. That chapter has been separated into two chapters for this document: Chapter 4, Wastewater and Regional Effluent Management and Chapter 5, Stormwater and Watershed-Based Water Quality Planning. Below is a summary of the 2016-2035 RWMP's 4 Watershed-Based Water Quality Planning portion.

Summary of the 2016-2035 RWMP Chapter 4

In the 1970s, the Nevada Division of Environmental Protection (NDEP) developed total nitrogen (TN) and total phosphorus (TP) water quality criteria for the Truckee River. These standards were set in 1984.

In 1994, the NDEP established Total Maximum Daily Loads (TMDLs) for TN and TP and total dissolved solids (TDS) in the Truckee River.

The NDEP and the United States (U.S.) Environmental Protection Agency (EPA) agreed that a third-party review of the 1994 TMDLs was appropriate to determine whether the assumptions underlying the 1994 TMDLs remained valid, and to identify new scientific and technical information and/or changes in conditions and river operations that may warrant a different approach to addressing nutrient issues in the watershed. A third-party review was initiated in the mid-2000s. As of 2017, the third parties have taken no further action concerning the review of the NDEP TMDLs.

In 2015, the Pyramid Lake Paiute Tribe (PLPT) conducted a Triennial Review of water quality standards (WQS) and presented rationale for proposed changes to certain standards, including a significant change to the dissolved reactive phosphorus (DRP) criterion for the Truckee River, reducing it from 0.05 mg/L to 0.022 mg/L. The proposed reduction of the DRP criterion for the Truckee River was implemented in 2015.

A stormwater National Pollutant Discharge Elimination System (NPDES) permit was issued to the Cities of Reno and Sparks, and Washoe County on May 26, 2010.

The Truckee Meadows Stormwater Permit Coordinating Committee (SWPCC), established among the Cities of Reno and Sparks, and Washoe County by interlocal agreement, is responsible for NPDES permit compliance. As part of the NPDES permit requirements, the SWPCC developed the SWMP, a comprehensive program to reduce pollution associated with urban runoff in the Truckee Meadows.

Summary of Chapter 5 of the 2021-2040 Comprehensive RWMP (2021-2040 RWMP)

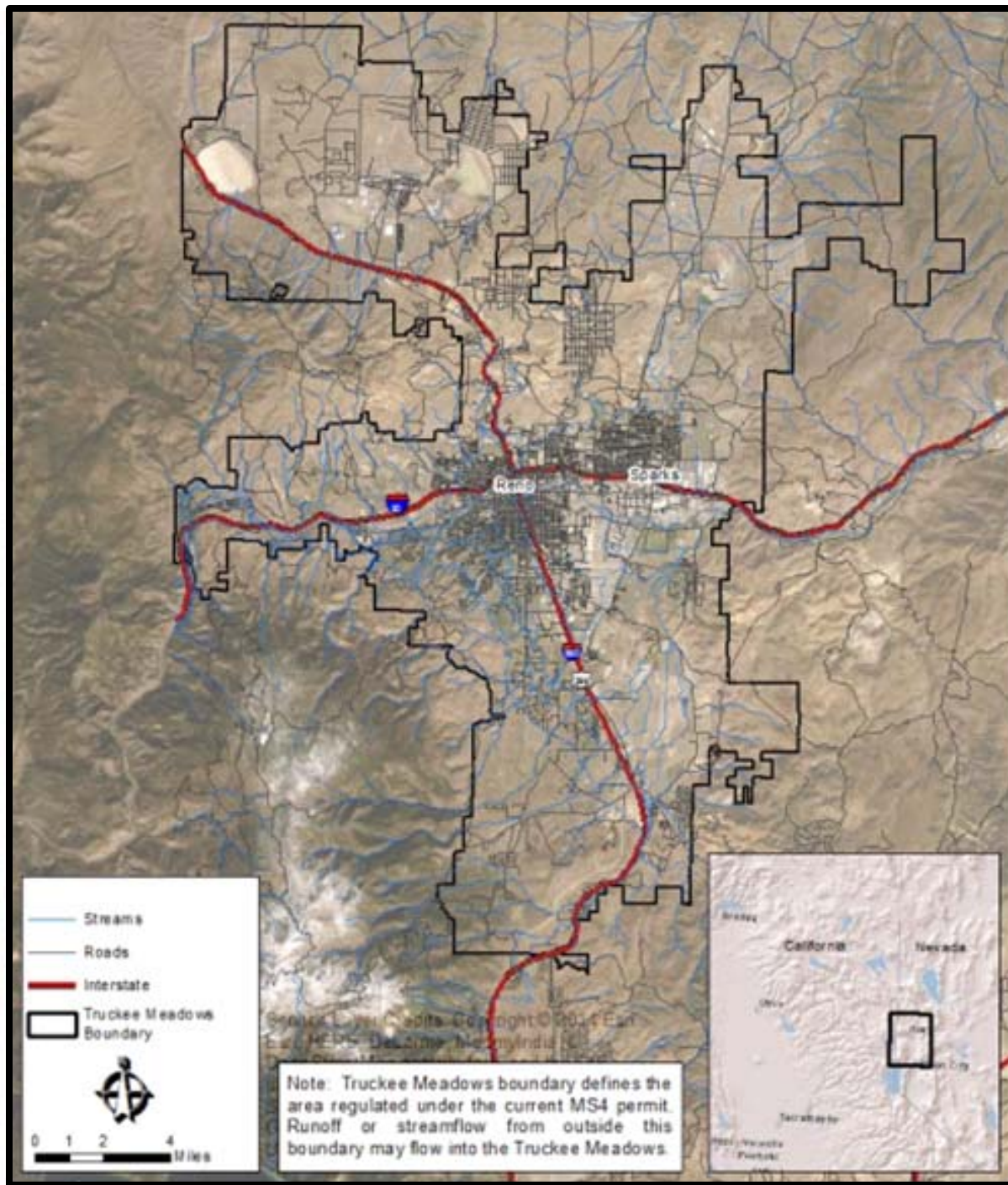
This chapter includes the addition of the most recent planning efforts for the SWMP, which is a requirement of the National Pollutant Discharge Elimination System permit. This permit was issued to the City of Reno, the City of Sparks, and Washoe County on May 26, 2010, and a permit renewal is expected in 2021.

Interagency and stakeholder collaboration, and important planning documents such as the watershed assessments, *One Truckee River Management Plan, Phase I, West McCarran to Sparks Boulevard* (Keep Truckee Meadows Beautiful and Nevada Land Trust (KTMB and NLT), 2016), the *2020 Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows* (ISWPP) (Resource Concepts Inc. (RCI), 2020), and the *2020 Watershed Management and Protection Plan for Tributaries to the Truckee River* (2020 Trib. Plan) (NCE, 2020) for watershed management and protection in the Truckee Meadows are presented.

Efforts to track and manage nonpoint sources of pollution entering the Truckee River through the above mentioned SWMP, plans, and documents have resulted in restoration projects for both the Truckee River and its tributaries. Several restoration projects described throughout the chapter have been planned, funded, and implemented.

5.4 Introduction and History

The Truckee River, critical to the local economy and quality of life, is a shared resource in the Truckee Meadows and among upstream and downstream users. Effective watershed protection requires cooperation among two states, one sovereign Indian nation, multiple counties, cities, towns, various utilities, other entities, and the public. **Figure 5-1** is a location map of the Truckee Meadows, including the Cities of Reno, Sparks, and parts of Washoe County.



Source: Balance Hydrologics, Inc., Truckee Meadows Stormwater Monitoring Annual Report Fiscal Year 2019

Figure 5-1 Location Map of the Truckee Meadows, including the Cities of Reno, Sparks, and parts of Washoe County

The Truckee River and its tributaries face water quality challenges, and varied regulations have been set forth by the Clean Water Act (CWA) to protect water quality and the watershed. In addition to receiving treated effluent from the Truckee Meadows Water Reclamation Facility (TMWRF) and an upstream California facility east of Truckee, the Truckee River carries snowmelt, rainwater, and urban stormwater – each of which may carry diffuse sources of pollutants, such as suspended sediment and dissolved solids. These diffuse sources are referred to as nonpoint source pollution. Treatment plant discharges (point sources) and nonpoint sources have the potential to impair water bodies and therefore are regulated by the NDEP and the EPA to protect water quality. To protect water quality, proactive adaptive watershed management is necessary.

Watershed management is an integrated approach to protecting water resources. The watershed approach coordinates environmental management within geographic boundaries to focus public and private stakeholders on the highest priority water quality problems. The objective of watershed protection is to develop management strategies that allow demands on water resources to be met while protecting beneficial uses throughout the watershed. The watershed approach brings together stakeholders most affected by management decisions, facilitates sharing of data and other technical resources, and encourages consensus building. Stakeholders may use an iterative process to identify and assess problems, prioritize, set environmental objectives, and develop management options and action plans. The watershed approach allows water resource specialists within the Truckee River watershed to develop creative solutions to issues that extend downstream and upstream across political jurisdictions, implement watershed management plans, and evaluate effectiveness.

2002 Memorandum of Understanding

The Cities of Reno and Sparks, Washoe County, and the PLPT have signed a Memorandum of Understanding (MOU) supporting the multiple goals to be achieved through river restoration acknowledging a regional collaborative effort to restore the lower Truckee River below Vista. The MOU generally describes the benefits, goals, and management principles that the major stakeholders agree are necessary to develop a comprehensive program to restore the lower Truckee River.

The lower Truckee River falls under the jurisdiction of multiple local, state, and federal agencies and units of government, and involves multiple private landowners. To successfully take advantage of this opportunity, public agencies and private landowners are needed to cooperate and coordinate their river restoration activities. This statement of public benefits, goals, and management principles agreed upon by key lower-river stakeholders, represented a common understanding and foundation from which more detailed work programs have been pursued with a high likelihood of success.

These public benefits, public goals, and management principals are:

Public Benefits:

- Recreation, open space, fishing, non-motorized boating and activities that are fundamental to the region's quality of life;
- Water quality and the related wastewater treatment capacity of the region, which is fundamental to economic growth;
- Attenuation of peak flood flows for public safety and to protect private and public property and infrastructure; and
- Habitat and wildlife benefits for fish, birds, mammals, and plant communities that are part and parcel of our region's natural heritage.

Public Goals:

- Mitigation of flood flows;
- Cost-effective wastewater quality treatment;
- Public recreation opportunities that are high quality, easy to access and ample in number; and
- Preservation and restoration of aquatic and terrestrial habitat in the river corridor.

Management Principles:

- The goals of public recreation, water quality, flood attenuation, and habitat restoration are, by and large, compatible;
- Planning and implementation efforts for any single public goal (e.g., flood protection) in the lower river corridor shall consider and be consistent with other public goals, private interests, regional economic growth and preservation of tax revenue and public fiscal capacity; and
- Coordination of lower river activities is highly desirable to achieve economies of scale and avoid potential conflicts.

There are many active stakeholders involved in watershed management and protection in the Truckee Meadows, with the public being one of the most important stakeholders. In addition to the public, other stakeholders include, but are not limited to:

- Desert Research Institute (DRI)
- Keep Truckee Meadows Beautiful (KTMB)
- Nevada Division of Environmental Protection (NDEP)
- Nevada Department of Wildlife (NDOW)
- Nevada Department of Transportation (NDOT)
- Nevada Land Trust (NLT)
- One Truckee River (OTR)
- Truckee Meadows Water Authority (TMWA)
- Truckee Meadows Regional Planning Agency (TMRPA)
- The Nature Conservancy (TNC)

- [Truckee River Flood Management Authority \(TRFMA\)](#)
- [Truckee Meadows Parks Foundation \(TMPF\)](#)
- [University of Nevada, Reno \(UNR\)](#)
- [UNR Cooperative Extension \(UNCE\)](#)
- [U.S. Fish and Wildlife Service \(USFWS\)](#)
- [Washoe County School District \(WCSD\)](#)

Many [of these stakeholders have prepared and/or funded resource tools for watershed management and protection.](#) **Section 5.3** presents a few examples of stakeholders and resource tools for watershed management and protection.

5.2 Regulatory [Guidance and Other Programs](#)

[5.1.1 Clean Water Act](#)

In 1972, Congress passed the Federal Water Pollution Control Act, commonly referred to as the CWA¹³. The CWA's objective was to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters” and its main goals included: (1) “that the discharge of pollutants into the navigable waters be eliminated by 1985”; and (2) “that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983”.

[5.1.2 NPDES Permit Program](#)

One of the first steps taken by the EPA to implement the CWA was the creation of the NPDES program, which controls water pollution by regulating point sources that discharge pollutants into waters of the United States (WOUS). The CWA defines “point source” as “any discernible, confined, and discrete conveyance including but is not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged” (CWA Section 502[14]). Industrial, municipal, and other facilities must obtain NPDES permits if their discharges go directly to surface waters.

Unlike pollution from industrial facilities and municipal sewage treatment plants, nonpoint source pollution comes from many diffuse sources and is caused by rainfall or snowmelt moving over and through the ground picking up and carrying natural and human-made pollutants to lakes, rivers, other water bodies and groundwater.

Although the NPDES program succeeded in controlling many significant municipal and industrial point sources of pollution, studies conducted by the EPA and others in the 1980s identified stormwater runoff from urbanized areas (i.e., nonpoint source pollution) as a leading cause of impairment to the nation’s water bodies. Additionally, EPA reported in the early 1990s that nearly

40 percent of surveyed WOUS₂ remained too polluted for fishing, swimming and other uses, and pollutants such as silt, fertilizer, metals, oil and grease were among the leading causes.

During this time, the EPA developed *The Watershed Protection Approach Framework Document* (EPA, 1991) as one strategy to address these issues. In addition, amendments to the CWA resulted in EPA requirements for NPDES permit coverage for stormwater discharges from medium and large Municipal Separate Storm Sewer Systems (MS4) beginning in 1990. This addition to the NPDES program essentially shifted municipal stormwater discharges from nonpoint source status to regulation as a point source. This is an example of the progressive nature of the NPDES program whereby over the years more sources have been included under the definition of point source pollution.

5.1.3 Water Quality Standards

The CWA also requires specific WQS to be set based on the intended use of the water, i.e., “beneficial uses”. These include water quality for aquatic life propagation, recreational, agricultural, industrial, municipal and many other uses. Specific WQS are set by states, territories, and authorized tribes, which associate the beneficial uses for each water body with scientific criteria to support those uses. States can set standards that are less restrictive than EPA guidance values if the criteria are scientifically defensible and shown to protect the beneficial uses. WQS for Nevada are contained in NAC 445A.118-225.

5.1.4 Section 303(d) List of Impaired Waters

Section 303(d) of the CWA requires that each state develop a list of water bodies that need additional work beyond existing controls to achieve or maintain WQS, and submit an updated list to EPA every two years. The law requires that states establish priority rankings for waters on “303(d) lists” and develop TMDLs for these waters if they meet criteria.

The *Nevada 2016-2018 Water Quality Integrated Report, Assessment Period - October 1, 2009 through September 30, 2016, August 2020 – After EPA Review* (Integrated Report) (NDEP, 2020) provides a comprehensive inventory of water bodies throughout the state, including a list of impaired waters now identified as Category 5 (previously labeled 303(d) waters). Impairments may be of all types and sources and form the basis for targeting water bodies for watershed-based solutions. Nevada’s most recent Integrated Report with its list of impaired waters was approved by the EPA in August 2020 and can be obtained online at: https://ndep.nv.gov/uploads/water-wqm-docs/IR2018_FinalEPA_Approved.pdf.

5.1.4.1 Total Maximum Daily Load

The additional work that may be necessary beyond existing controls for listed water bodies includes the establishment of one or more TMDLs. A TMDL is a calculation of the maximum

amount of a pollutant that a water body can receive from all sources and still meet WQS. The TMDL process provides an analytical framework to identify the sources and causes of pollution, identify the relative contributions of each pollutant, and establish allocations for each specific pollutant as needed to attain WQS. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonal variation in water quality. The point source portion of a TMDL is called a Waste Load Allocation (WLA) and the nonpoint source portion, including background sources is called a Load Allocation (LA).

4.1.1 Truckee River Total Maximum Daily Loads

TMDLs have been established for the Truckee River within the state of Nevada for three constituents, TN, TP, and TDS. TMDLs are measured at Lockwood under the assumption that if the TMDLs are being met at this location, downstream from TMWRF, they are being met on the rest of the “impaired” river reach. The Truckee River downstream of the Truckee Meadows historically has been challenged with difficulty meeting aquatic life uses under existing WQS and TMDLs. In the 1980s, water quality sampling indicated that the Truckee River was impaired for low dissolved oxygen (DO). An overabundance of benthic algae was determined to be the primary cause of low DO. Benthic algae, also called periphyton, thrive in conditions with ample bioavailable nutrients (nitrogen and phosphorus) and shallow water depth (allowing for light penetration to the bottom) and increased opportunity for photosynthesis.

Primary sources of nutrients to the Truckee River include natural background sources, nonpoint sources (e.g., stormwater, irrigation return flows, septic systems), and point source discharges. The largest point source in the watershed is the TMWRF that serves the Cities of Reno and Sparks and portions of Washoe County. The TN and TP water quality criteria for the Truckee River were developed by the NDEP in the 1970s and have been refined over time, with the current standards set in 1984. In 1994, the NDEP established TMDLs for TN and TP in the Truckee River (NDEP, 1993). The 1994 Truckee River TMDL resulted in a TN allocation of 1000 lbs/day, with half of the load (500 lbs/day WLA) allocated to TMWRF and the bulk of the remainder, the LA, to nonpoint sources. The TMDL also specifies a TP allocation of 214 lbs/day, with 134 lbs/day allocated to TMWRF and the remainder, the LA, to nonpoint sources. The TMDLs are summarized in Table 5-1. Each entity must comply with its NPDES permit requirements, including discharge limitations designed to meet the WLAs.

Table 5-1 Summary of Truckee River Total Maximum Daily Loads, Waste Load Allocations and Load Allocations

Source	Nitrogen	Phosphorus	Total Dissolved Solids

<u>Nonpoint Sources/ Background (Load Allocation)</u>	450 pounds per day (lbs/day)	75.25 lbs/day	None assigned
<u>Truckee Meadows Water Reclamation Facility (Waste Load Allocation)</u>	500 lbs/day (annual average) 500 lbs/day (30-day average, May-Oct)	134 lbs/day	120,168 lbs/day
Vista Canyon Group <u>(Waste Load Allocation)</u>	16.7 lbs/day	4.75 lbs/day	9,730 lbs/day
Sparks Marina Lake <u>(Waste Load Allocation)</u>	33.3 lbs/day	WLA Trade Agreement	19,390 lbs/day
TMDL	1,000 lbs/day	214 lbs/day	900,528 lbs/day

Source: Stantec, 2011. Storm Water Management Program

Third Party TMDL Review

The Cities of Reno and Sparks, Washoe County, and the TMWA began leading a third-party effort to review the Truckee River TN and TP TMDLs starting in the mid-2000s. Several factors motivated the TMDL review. Although TMWRF is currently able to comply with the WLA designated by the 1994 TMDL, the ability of TMWRF to meet the TN WLA and serve future growth of the service area was thought in the early 2000s to require very costly advanced treatment technologies. In addition to regional growth, other driving factors to TMDL revision included improved river flow operations, advances in understanding the science of river processes, and a desire for more flexible solutions to water quality management. During the years since the 1994 TMDL was approved, new data were collected, new modeling tools were developed, and operation of the Truckee River dams and diversions had changed. The additional data and enhanced modeling tools have improved the understanding of how the river assimilates (i.e., takes up or absorbs) nutrients, and how improved river flows may result in a higher assimilative capacity for nutrients.

The NDEP and EPA agreed that a third-party review of the 1994 TMDL is appropriate to determine whether the assumptions underlying the 1994 TMDL remained valid, and to identify new scientific and technical information and/or changes in conditions and river operations that may warrant a different approach to addressing nutrient issues in the watershed. The NDEP has the authority to adopt, modify, or reject a third-party TMDL based on a variety of factors. EPA approval of TMDLs is required.

A Truckee River WQS/TMDL Working Group (Working Group) was formed and included representatives from the City of Reno (third-party), the City of Sparks (third-party), Washoe County (third-party), TMWA (third-party), WRWC, the NDEP, EPA Region 9, LimnoTech (consultant) and Stantec (consultant). In 2011, the third-parties, the NDEP and EPA jointly developed and finalized a TMDL/WQS Review Work Plan to describe a process for the review including roles, responsibilities, and expectations. In consultation with the NDEP and EPA, the third-parties agreed to facilitate public outreach and obtain input from affected stakeholders at key decision points in the review and revision process. The TMDL review was put on hold after the Working Group deemed a WQS review was necessary to ensure that appropriate standards were used in any TMDL revisions.

4.1.2 *Truckee River Water Quality Modeling*

The third-parties, with funding from the WRWC, retained the services of the consulting firm LimnoTech to conduct the majority of the technical work related to the TMDL review. The foundation of the technical work is the development and application of a set of watershed and river water quality models that provide linkage between nutrient levels in the Truckee River and resulting DO levels:

- Watershed Analysis Risk Management Framework (WARMF) – watershed model; and
- Hydrological Simulation Program FORTRAN – river water quality model.

The combination of extensive data and improved computer tools had greatly increased the general understanding of the Truckee River and related watershed processes as well as improved the ability to better simulate the river and watershed under contemporary conditions. The two linked models were run together to provide an understanding of how the Truckee River system assimilates nutrients and complies with DO criteria under a representative flow condition. The models simulated the complex relationship of how nitrogen and phosphorus, in combination with other factors such as temperature and light, can lead to excessive growth of algae and ultimately a situation of depleted DO. The following sections provide a brief summary of both models.

Truckee River Hydrological Simulation Program FORTRAN (TRHSPF) is an in-stream water quality model used to predict occurrences of low DO resulting from benthic algae, low flow, and other pollutants. It incorporates peer-reviewed empirical and theoretical equations related to the growth, death, nutrient preferences and removal of benthic algae based on the DSSAMt model, which is a variation of the DSAMM III model used for the 1994 Truckee River nutrient TMDL. TRHSPF inputs include projected point source flows and diversions as generated by a water operations model, and tributary flows and nonpoint source loads from a watershed model.

The Truckee River Operations Model (TROM) is a water operations model that projects regulatory flows (reservoir releases, diversions) with and without different flow management strategies (e.g., Truckee River Operating Agreement) in place. The model accounts for future municipal and industrial (M&I) demands, and conversion of water rights from agricultural use to M&I. TROM was used to support the Truckee River Operating Agreement Environmental Impact Statement/Environmental Impact Review analysis released in 2008. TROM output, available for a 100-year period, is used for input to the watershed and water quality models to define conditions with and without flow management in place.

The WARMF is a watershed model adapted to the Truckee River basin that predicts nonpoint source loads under current and future land use as well as projects potential nonpoint load reductions. WARMF inputs include meteorology, land use, as well as managed flows provided by TROM (e.g., reservoir releases, municipal and agricultural diversions). WARMF calculates the distinction between stormwater and non-storm water nonpoint sources and also simulates potential improvements and reductions of nonpoint source loads from best management practices (BMPs), conversion of agricultural lands, and removal of septic systems.

Tributary flows and nonpoint source loads predicted by WARMF are linked to the in-stream water quality model, TRHSPF. TRHSPF calculates in-stream temperature and constituent concentrations (e.g., nutrients, DO), and has the capability to assess potential nutrient assimilative capacity benefits due to deeper water and cooler temperatures realized through stream restoration. The two linked models, run together under various flow management scenarios, provide an understanding of how the Truckee River system assimilates nutrients and complies with WQS. These modeling runs and improved descriptions of riverine conditions are provided on the Truckee River Info Gateway (TRIG) (documents for the runs may be found at www.truckeeriverinfo.org/tmdl) including the *Technical Rationale for Review and Revision of Truckee River Nutrient Water Quality Standards, Final Report* (LimnoTech, 2014).

Nevada Nutrient WQS Review

During the course of the nutrient TMDL review and revision, two important efforts were conducted to review and revise nutrient WQS for the Truckee River. The third-parties supported the NDEP's triennial review and the PLPT conducted an independent triennial review of nutrient WQS.

The NDEP and EPA agreed to consider any third-party proposed revisions to the existing nutrient WQS in an effort to assure that the WQS are appropriate and that any TMDL revision would be based on the best available WQS. The existing nutrient water quality criteria were based on limited information such as algal growth studies conducted in the late 1970's (before TMWRF upgrades) and EPA's "Red Book" (EPA, 1976). The NDEP had recognized that these criteria were in need of improvement.

In 2011, the NDEP issued notice of its intent to conduct a triennial review of WQS and requested comments to consider for potential revisions. The Cities of Reno and Sparks, and Washoe County each requested a review and potential revision of the TP and TN WQS for the Truckee River. The

third-party led effort that followed, sponsored in part by WRWC, provided scientific support in the reassessment of WQS.

An important element of the WQS review process was engagement with watershed stakeholders in order to fully vet the interests, concerns, and potential impacts of any changes to WQS or TMDLs. Key watershed stakeholders were engaged on an individual basis, followed by the formation of a Truckee River WQS Focus Group (Focus Group) and a series of workshops. In addition to members of the Working Group, the Focus Group included representatives from Churchill County, City of Fernley, PLPT, Truckee Carson Irrigation District, USFWS, and NDOW. All Focus Group members were encouraged to provide comments throughout the process via both written feedback forms and opportunities for verbal comments during the workshops.

Technical Approach and Results

The foundation of the technical work involved application of the linked and calibrated WARMF-TRHSPF models to evaluate potential nitrogen and phosphorus water quality criteria. A full description of the technical activities was documented by LimnoTech⁷ (2014) and a summary of results is provided below.

Several observations were summarized from the water quality modeling effort which examined a range of nutrient concentrations over both low (10th percentile) and average (50th percentile) flow regimes.

- In the Nevada region of the Truckee River (East McCarran Blvd. to PLPT Boundary), the level of DO criterion violation is low over the entire range of annual average nutrient concentrations examined. Additional observations include:
- For both low and average flow regimes, the DO criterion compliance does not show a sensitivity to increasing phosphorus concentrations; and
- For the low flow regime, the DO criterion compliance shows a slight sensitivity to increasing TN concentrations; however, this response does not occur unless the annual average TN concentration is greater than approximately 0.80 mg/L.

In the PLPT region of the Truckee River, the level of DO criterion violation varies depending on the annual average nutrient concentration and the flow regime¹. Additional observations include:

- For the low flow regime, the level of DO criterion violation in the Truckee River is sensitive to the annual average phosphorus concentration; however, no DO criterion violations were calculated for the average flow regime;

¹ See Appendix L, NDEP comments.

- For both the low flow and average flow regimes, DO criterion violation in the Truckee River does not show sensitivity to the average annual TN concentration over the range examined; however, for the low flow regime the DO criterion violations ranged from approximately three percent of days to six percent of days depending on the phosphorus concentration;
- For the average flow regime, no DO criterion violations were calculated for the Truckee River regardless of the annual average nutrient concentrations; and
- DO criterion violations in the Truckee River are seen to be sensitive to other factors beyond the instream phosphorus concentration such as flow condition, channel geometry and stream temperature.

The purpose of the process and analysis was to provide the NDEP and EPA with technical information to support the triennial review of the nutrient WQS for the Truckee River in Nevada. Any proposed recommendations for changes from the existing nitrogen and phosphorus numeric nutrient criteria would have needed to be documented by the NDEP in a rationale document which would be available for public comment. Any proposed changes would need to be approved by the State Environmental Commission and EPA before becoming effective under the federal CWA.

Two alternate scenarios for Nevada nutrient standards were given detailed examination: (1) Maintenance of existing standards; and (2) Switching the phosphorus standard from the existing TP=0.05 mg/L to the PLPT standard of OP=0.05 mg/L. Results showed that if the Nevada phosphorus criterion were changed to be consistent with the (then) current PLPT criterion, there would be no expected increase in DO violations in the Truckee River from East McCarran to the PLPT boundary under either low flow or average flow conditions compared to conditions under existing standards.

The full technical analysis was documented (LimnoTech, 2014) and presented to the NDEP, key stakeholders and the interested general public during a public meeting March 3, 2014. Additional reports and presentations regarding the WQS review process are available from the TRIG website (<http://truckeeriverinfo.org/tmdl>).

~~After completion of the technical analysis, no immediate action was taken by the NDEP to complete the WQS review. The NDEP met with PLPT in April 2014 and Tribal representatives indicated their intention to initiate their own triennial review of WQS for the Truckee River. A decision was made to suspend the NDEP WQS review until PLPT completed their review².~~

² See Appendix L, NDEP comments.

5.2.15.1.5 PLPT Water Quality Control Plan, Triennial Review, and Water Quality Standards Revisions

5.2.15.1.5.1 PLPT Water Quality Control Plan

In January 2007, EPA granted the PLPT “treatment as a state” status for adoption of WQS and conducting CWA Section 401 water quality certifications within the boundaries of the Pyramid Lake Paiute Indian Reservation. In September 2008, the PLPT adopted a *Water Quality Control Plan* (“WQCP”), which addresses issues such as beneficial uses, antidegradation, water quality criteria, scientific justification, and implementation plans. The EPA approved the WQCP on December 19, 2008. The WQCP includes narrative and numeric WQS for Pyramid Lake, the lower Truckee River, and all surface waters within the Reservation.

The WQCP includes numeric water quality criteria for both nitrogen and phosphorus. The TN standards in the WQCP are identical to the Nevada criteria applicable to the Truckee River from McCarran Boulevard to Wadsworth. However, with regard to phosphorus, the WQCP criterion is expressed as orthophosphate, in contrast to the State’s 1984 criterion for TP, which is a more stringent standard. The WQCP criterion is designed to protect the most sensitive beneficial uses of the downstream reaches of the river. According to the WQCP, the orthophosphate criterion is “based on its secondary importance in regulating algal growth” (PLPT, 2008). The WQCP notes the advantage of this criterion over TP is that “it regulates the availability of phosphorus to the algae” and avoids triggering exceedances of the WQS due solely to increased turbidity, which is separately regulated.

5.1.5.2 Triennial Review and Water Quality Standards Revisions

On April 27 and April 30, 2015, the PLPT conducted public workshops to present the Triennial Review process and methodologies for review of their WQCP (i.e., WQS). On June 3, 2015, the PLPT presented results of their Triennial Review of WQS and rationale for proposed changes to certain standards. The PLPT provided a public comment period from May 26, 2015 to August 21, 2015.

The PLPT proposed a significant change to the DRP criterion for the Truckee River, reducing it from 0.05 mg/L to 0.022 mg/L. The proposed standard was set to provide consistency with the existing NDEP TP criterion (set in the 1980’s), but no justification was provided on the appropriateness of the current NDEP TP criterion³. The PLPT finalized their Triennial Review and WQCP on September 15, 2015. The proposed reduction of the DRP criterion for the Truckee

³ See Appendix L, NDEP comments.

River (annual average ≤ 0.022 mg/L P) was approved by EPA on December 23, 2015 and implemented by the PLPT (PLPT, 2015).

5.1.5.3 Potential Implications of WQS Outcomes

With the revised PLPT DRP criterion approved, it is highly unlikely that the NDEP TP criterion would be revised to a value higher than 0.05 mg/L. This is due to the fact that WQS from upstream jurisdictions must maintain compliance with WQS for downstream jurisdictions. To date, the third parties have taken no further action concerning the review of the NDEP TMDLs.

5.1.6 NPDES Permits Pertinent to the Truckee Meadows and Nevada

Per federal regulations (40 Code of Federal Regulations § 122.26), the NDEP has issued the following three baseline general permits that regulate stormwater discharges in the Truckee Meadows:

- The Permit for Authorization to Discharge from Municipal Separate Storm Sewer Systems to Waters of the United States under the National Pollutant Discharge Elimination System (NVS000001) (MS4 permit) was issued to the Cities of Reno and Sparks, and Washoe County effective May 26, 2010 to May 25, 2015, renewed permit has been requested and is expected in 2021
- The Construction Stormwater General Permit (NVR100000), effective January 5, 2015 to January 4, 2020 (this permit has been administratively continued while a renewal permit is being drafted)
- The Multi Sector General Permit for Stormwater Discharges Associated with Industrial Activities (NVR050000), effective June 10, 2019 to June 9, 2024

The requirements of these permits apply to all urban development, whether public or private. Each permit indicates that a minimum set of BMPs shall be implemented and pollutants in

5.1.5—stormwater discharges shall be controlled to the maximum extent practicable. Maximum extent practicable is a regulatory standard developed by the EPA that has been interpreted to give local governments some flexibility in developing stormwater management programs that are adapted to their local conditions.

The above three permits are summarized below; the full text of each of these permits can be viewed at <https://ndep.nv.gov/water/water-pollution-control/permitting>.

MS4 Permit

The MS4 permit authorizes stormwater discharges into receiving WOUS within the Cities of Reno and Sparks, and Washoe County. The permitted area includes the limits of the urbanized area within the Truckee Meadows Service Area as established by the Truckee Meadows Regional Plan (Regional Plan) (TRMPA, 2019).

Construction Stormwater General Permit (NVR100000)

The objective of this permit is to control and reduce pollution into Waters of the State that meet the definition of WOUS from stormwater discharges associated with construction activities.

Multi Sector General Permit for Stormwater Discharges Associated with Industrial Activities (NVR050000)

The objective of this permit is to control and reduce pollution to WOUS from stormwater discharges associated with industrial activities.

5.1.7 Truckee Meadows Storm Water Coordinating Committee and the Regional Stormwater Quality Management Program

The NDEP issued the first NPDES MS4 permit jointly to the Cities of Reno and Sparks, Washoe County, and the NDOT in 1990. The MS4 permit is located here: www.tmstormwater.com. The four entities entered an interlocal agreement and formed the Truckee Meadows SWPCC. The purpose of the committee was to define responsibilities and funding options for implementing the required components of the permit, and to submit annual reports to the NDEP and the EPA.

Early on, the SWPCC conducted monitoring of various land uses, drafted a construction site best management handbook in 1994, and considered impacts of various street sweeping technologies. The NPDES MS4 permit has a five-year term. The current permit is expected to be renewed in 2021. The NPDES permit requires the entities to develop, administer, implement, and enforce a SWMP that addresses:

- Intergovernmental Coordination
- Public Outreach
- Municipal Operations Program
- Stormwater Discharge Monitoring
- Post Construction New Development and Significant Redevelopment (NDSR)
- Construction Site Discharge
- Illicit Discharge Detection and Elimination
- Industrial Program

Each of the elements will be discussed further as to what has been accomplished, future compliance issues and needs, and the role of the Regional Water Management Fund (RWMF) will be summarized.

The goal of the program is to implement BMPs and reduce the pollution in urban runoff prior to it entering the permittees' storm drain systems and discharging to receiving waters such as the Truckee River and its tributaries. Urban runoff includes dry weather flows from activities such as watering and outdoor washing, illegal connections, and discharges to the storm drain system, as well as runoff from storm events.

In August 2000, the SWPCC began the process of developing a SWMP with the required elements specific to the Truckee Meadows. A series of public meetings and workshops were conducted throughout 2000 and 2001 to define local water quality goals, resources, stakeholders and interested parties. The finalized SWMP presented a comprehensive approach to implementing each program element and contained priorities, approaches, guidance and schedules for programs, activities, and effectiveness evaluation. The schedule for program implementation extended past the permit term.

In January of 2002, EPA conducted an audit of the Truckee Meadows. As a Phase 1 community, EPA expressed that the Truckee Meadows should have had many of the required elements well underway. The repercussions of the audit impacted both the State of Nevada and the Truckee Meadows programs. The NDEP added staff and became more proactive in the implementation of the stormwater NPDES program throughout the state. For the Truckee Meadows, the most significant outcome was the requirement that the program elements for construction and industrial storm water inspections be accelerated and in place by July 2003. This was the effective date of CWA Storm Water Quality Phase 2 which lowered the threshold of construction sites requiring a Storm Water Pollution Prevention Plan (SWPPP) from five acres to one acre.

The following policy supports the Truckee Meadows SWMP; this policy is within the 2016-2035 RWMP.

Policy 3.1.f: Adoption of Uniform Storm Water Quality Programs

A storm water quality program shall be implemented region-wide, including the continuation and/or enhancement of existing programs in Reno/Sparks/Washoe County, such as the Truckee Meadows Regional Storm Water Quality Management Program, to address not only urban runoff but also other non-point source contributions.

Program Schedule and Annual Reporting Requirements

The most recent five-year permit was issued to the Truckee Meadows on May 26, 2010. As part of permit compliance, the Cities of Reno and Sparks, and Washoe County were required to update the SWMP, the document describing permit compliance for all components of the program for the permit term. Stantec Consultants prepared an updated SWMP in December 2011, providing an analysis of the program element needs, activities and schedule for the permit term. This document will remain in place until a new permit is issued and will describe the timeline for annual report submittals in January each year to report on the previous fiscal year. When a new permit is issued, the SWMP will require an update to meet regulatory requirements described in the new permit. A renewed permit is expected in 2021.

Intergovernmental Coordination

The SWPCC has continued to implement and update the SWMP. In 2004, NDOT withdrew as a permittee to be permitted independently. This prompted the need to amend the Interlocal Agreement originally approved in 1990. While considering amending the agreement to address

the withdrawal of NDOT, other changes were incorporated. The SWPCC concluded that their efforts would be better served by two representatives from each permitted entity, now the Cities of Reno and Sparks, and Washoe County (the co-permittees). The City of Reno continues as the lead agency and provides the program coordinator, legal, and secretarial support.

In 2003, the Regional Water Planning Commission funded and accepted a *Watershed Management and Protection Plan for Tributaries to the Truckee River (2003 Watershed Management Plan)* (Washoe County Department of Water Resources, UNCE, Washoe Storey Conservation District, 2003). It was suggested that an oversight committee be developed for the implementation of this plan. The SWPCC recognized that the SWMP is a substantial aspect of watershed management and, since the SWPCC has equal representation of the responsible governmental entities in the Truckee Meadows, it was also concluded that expansion of the purview of the SWPCC to include watershed management for water quality was appropriate. In 2016 the SWPCC began an initial update to the 2003 Watershed Management Plan. In 2020 the final 2020 Trib. Plan (NCE, 2020) was completed and submitted to NDEP and EPA. The SWPCC will continue to review, modify, and update the 2020 Trib. Plan as needed.

The amended Interlocal Agreement, approved by the Cities of Reno and Sparks, and Washoe County in March 2004, explicitly states that the SWPCC is to advise the City Councils of Reno and Sparks, and the Washoe County Commission with respect to any and all matters relating to storm water permit compliance and policies (relative to matters relating to watershed management and protection), which encompasses only the water quality impact to the watershed.

Public Outreach Program

The website at www.tstormwater.com provides information for all audiences: citizens; industry and developers; and regulators or other parties interested in the SWPCC. Each of these portals provides contents for the respective audience, including contact information for committee members; program elements; posted guidance documents; upcoming trainings; online mapping; data and permit tools; program news and meetings; frequently asked questions; hotlines for reporting spills and water quality related issues; information about storm water pollution and the storm drain system; related community programs; federal and state requirements; BMPs; commonly used terms; and other sources of information.

Numerous approaches to Public Outreach Program have been conducted. Staffs have provided many presentations about the program to the professional community and to the public. Other efforts have included public outreach, education events, educational materials, implementation of the storm drain labeling program, developing, and maintaining partnerships and affiliations, development of a regional program website, demonstration projects, and hosting workshop and training seminars. These efforts are further discussed below in Section 5.3.

Municipal Operations Program

The Municipal Operations Program is improving over time. Maintenance activities such as street sweeping, catch basin cleaning, ditch cleaning, and waterway maintenance were primarily

focused upon flood conveyance and capacity. Now, there is much more of an awareness to conduct these activities in a way that considers water quality as well.

Street sweeper equipment in all three jurisdictions have been upgraded to vacuum and regenerative air sweeper truck models, which reduces the amount of pollutants reaching the storm drain system and helps the municipalities meet air quality particulate matter (PM10) requirements set by the EPA. New air quality regulations were enacted in the Truckee Meadows in 2003 with the intent to reduce PM10. The regulations required that all publicly owned street sweepers purchased after January 1, 2002 must be certified under clean air standards. Public entities must reduce the amount of road sand applied during winter storms and sweep up after a sanding event within four days or as soon as weather permits.

Since the City of Reno and NDOT corporation yards are located near the Truckee River, they were the first to be addressed during the 2002 EPA audit. Of greatest concern was sand/salt storage. Each entity has since implemented improvements to cover sand and salt stockpiles as well as apply BMPs to their facilities and make operational modifications to protect the quality of storm water runoff leaving their sites.

In the 2013 audit of the SWMP performed by the NDEP and EPA, the corporation yards were evaluated at each of the three co-permittees yards. One of the requests made of the staff was the development of a site inspection form and checklist, to be performed regularly by each agency. Entities incorporated this regular inspection during Fiscal Year 2014-15 and continue to report results in the annual reporting.

Stormwater Discharge Monitoring Program

The primary goal of the Stormwater Discharge Monitoring Program is to develop a better understanding of how stormwater runoff affects receiving waters within the MS4 permit area over time through monitoring, research and investigation (Stantec, 2012). With accurate, and representative monitoring data, program effectiveness can be assessed and new or revised stormwater BMPs can be identified. In support of this overall program goal, four monitoring objectives have been identified:

- 1 Characterize the ambient and stormwater quality in the major tributaries to the Truckee River;
- 2 Collect the data necessary to improve our understanding of stormwater effects on the 303(d) listed waters and listed constituents;
- 3 Measure the ambient and stormwater quality in selected outfalls, catchments and land use types within the MS4 permit area; and
- 4 Conduct special studies and investigations as the needs arise and funding is available to better understand stormwater issues in the area.

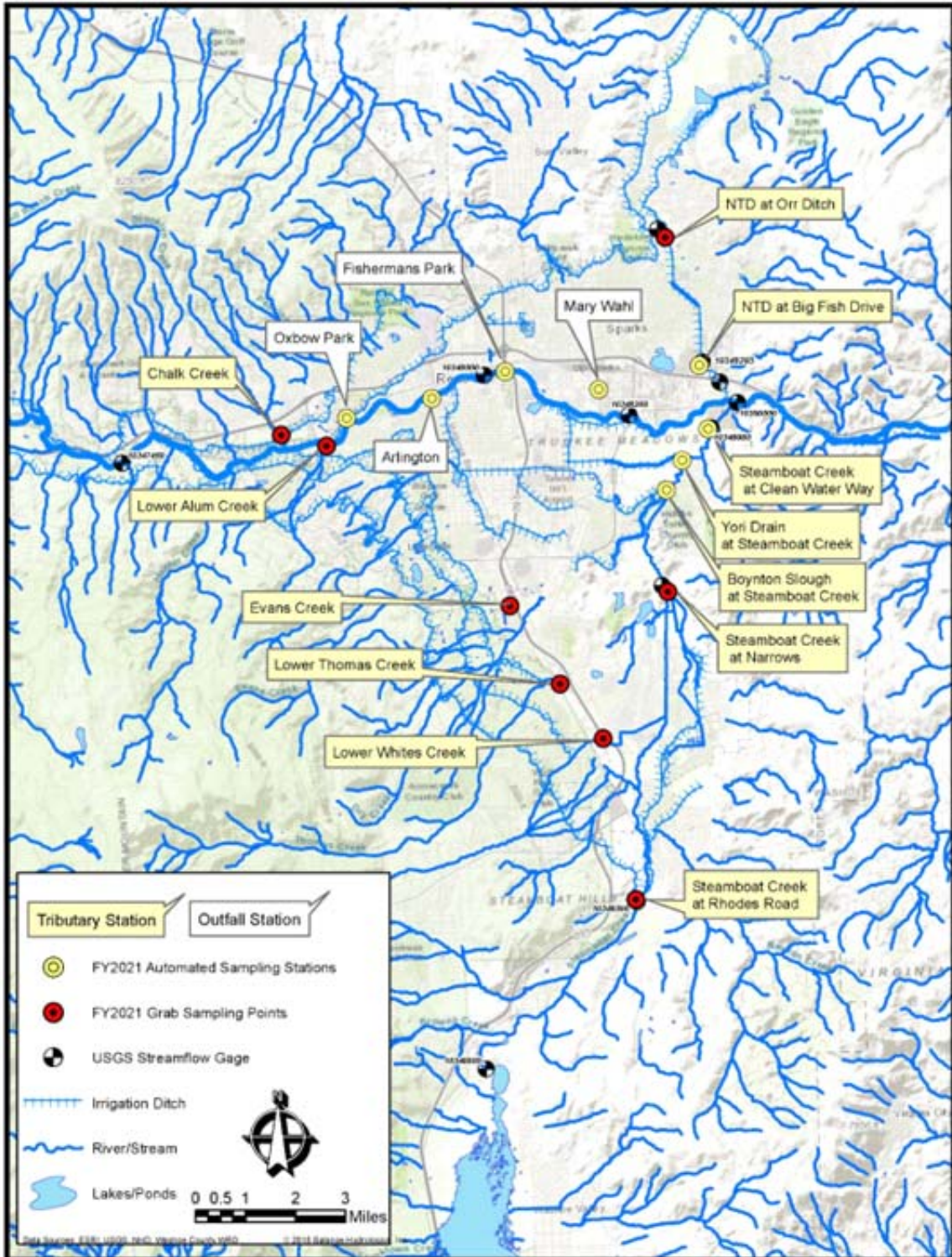
The Stormwater Discharge Monitoring Program is one component of the SWMP. Under the SWMP, sampling has been conducted since 2003 at a number of established monitoring stations across the Truckee Meadows with results reported to NDEP. The SWPCC is required to conduct storm water sampling following a Sampling and Analysis Plan (SAP) which outlines the general

sampling program and approach. The most current SAP is: *2021 Stormwater Sampling and Analysis Plan* (Balance Hydrologics, 2020). The SAP may be found here: www.tstormwater.com. The locations of the Fiscal Year 2021 Stormwater Monitoring Stations are shown on **Figure 5-2**. Data generated by this program may be found in the TRIG website, data section at www.truckeeriverinfo.org.

Post Construction New Development and Significant Redevelopment (NDSR) (Land Use Planning)

Per the MS4 permit, the structural controls BMPS have been rolled into a NDSR program. The NDSR goals are to prevent discharges to the maximum extent practicable from post-construction projects that cause or contribute to downstream violations of water quality standards; and to promote the improvement of ambient water quality by reducing the discharge of pollutants in stormwater.

One method to meet these goals is the implementation of Low Impact Development (LID) which are approaches intended to provide post construction storm water quality management. LID is a methodology for accommodating stormwater runoff within new development and redevelopment that mimics natural hydrologic functions within a site. Rather than conventional hard-piping from impervious surfaces, LID uses features such as vegetated swales, bioretention systems and permeable pavements.



Source: Balance Hydrologics, Inc., 2021 Stormwater Sampling and Analysis Plan

Figure 5-2 Truckee Meadows Stormwater Monitoring Stations, FY2021

These types of features:

- Utilize natural biological, physical and chemical treatment processes for treatment;
- Promote percolation and water table recharge;
- Slow runoff flows and reduce runoff volumes;
- Reduce pollutant loads gathered from impervious surfaces sheet flow;

The result is:

- Improved water quality to the receiving water;
- Decreased runoff volumes and flows; and
- Improved water table recharge.

To better understand the NDSR program, a brief history is helpful. In January 2004, the *Structural Controls Handbook* was finalized, and updated in April 2007 (Kennedy/Jenks Consultants (KJC), 2007). Structural Controls program implementation is not clearly defined by the EPA or the NDEP and is left up to the community. Public meetings and handbook development processes have prompted numerous questions: what is a practical threshold to impose structural controls for new development and redevelopment, what should be involved in the permitting, application and design approval process and how should the structural controls be tracked, inspected and maintained? To answer these questions fairly, it was the consensus of the SWPCC that the use of a professional advisory group (PAG) was warranted. The PAG was comprised of local engineers, planners, developers and contractors. Several facilitated meetings of the PAG took place over the course of a year.

By May 2005, the SWPCC accepted the *Final Recommended Policies and Procedures for Structural Controls and LID in the Truckee Meadows* (KJC, 2005). One of the PAG recommendations was the development of standard design worksheets to aid in simplifying implementation of the Storm Water Quality Management practices and LID. KJC was retained for this purpose with the cost shared by the Cities of Reno and Sparks, Washoe County and the RWMF.

The purpose of the Standard Guidance Worksheets is to aid in simplifying implementation of the Storm Water Quality Management practices and LID standards. The standard design templates assist community development staffs during plan review by providing readily accepted storm water design templates. Worksheets were updated in 2012 to include Self Treating Areas. The design templates are available on www.tnstormwater/construction.com

The City of Reno has adopted an ordinance requiring the use of structural controls for post construction storm water management for new development and redevelopment. This ordinance was updated in 2016 with the updates of the Structural Controls and LID Manuals, as they were codified. Updates to the manuals included a reformatting and integration into one manual, the *Truckee Meadows Structural Controls Design and LID Manual* (NCE, 2015).

Construction Site Discharge Program

The Construction Site Discharge Program integrated stormwater quality management and the requirements of the NPDES Construction Stormwater General Permit into existing local construction permitting and inspection programs. Erosion, sediment transport and pollutant discharges from construction sites are of significant concern to the NDEP and EPA. The Construction Site Discharge Program element was in place and effective by June of 2003 to meet an EPA directive.

The Truckee Meadows SWPCC developed two primary resources to assist the construction community:

- Truckee Meadows Construction Site BMP Handbook; and
- The Nevada Construction Site BMP Field Guide.

The *Truckee Meadows Construction Site BMP Handbook* (Handbook) was finalized in March 2003 with the most recent update occurring in February of 2015 (Farr West Engineering, 2015). Policies and procedures were updated to provide regional consistency as well as consistency with the Construction Stormwater General Permit. The documents developed along with the Handbook include a Construction Permit Submittal Checklist, a Performance Standards Compliance Checklist, a Construction Site Inspection Checklist and a model.

The development of the Handbook was made a priority and a template was created for SWPPP. Concurrently, the co-permittees internally developed inspection programs according to their individual plan review and inspector resources.

Once the Handbook was completed and accepted by the Regional Water Planning Commission, community outreach and education were conducted through the American Society of Civil Engineers, the Builders Association of Northern Nevada (BANN), Associated General Contractors (AGC) and others. The permittees offer on-going basic training in the proper use of BMPs at construction sites typically in the spring and fall through BANN and AGC.

Subsequently, a pocket-sized, waterproof field guide was developed to assist the construction industry in better understanding installation and maintenance of construction BMPs for stormwater quality management. To leverage funding opportunities, this guide was developed with the intent that it could be used throughout the State. The *Nevada Contractors Field Guide for Construction Site Best Management Practices* (Field Guide) was developed by KJC (2008) and is managed by the SWPCC. Funding was provided by the Cities of Reno and Sparks, Washoe County, the NDEP, and the RWMF. All guidance documents including the Handbook and the Field Guide are available for download at www.tmstormwater.com/construction.

Illicit Discharge Detection and Elimination

Illicit discharges are typically identified through public reporting, inspections, outfall sampling, or by maintenance crews during day-to-day cleaning of the storm sewer systems.

The co-permittee's maintenance divisions have been advised that in the event they find discoloration, odors, or other evidence of pollution, they are to contact Environmental Control staff. Subsequent investigations may lead to identification of illicit discharges that can be remedied. Annual staff trainings occur on a rotating basis between the co-permittees to support the Illicit Discharge Detection and Elimination program.

The Cities of Reno and Sparks Environmental Control staffs conduct inspections of the major outfalls along the Truckee River annually. The inspection is intended to occur during a period when there should not be any flow of stormwater. If there is flow from the outfalls, they are sampled and analyzed for evidence of basic pollutants. Through this exercise, there have been illicit discharges identified and corrected. In some cases, however, the source cannot be identified.

Industrial Program

Concurrent with the development of the Construction Site Discharge Program, the entities considered how the Industrial Program would be implemented. The State of Nevada is primarily responsible for determining what businesses needed permits and for issuing permits. The permittees are responsible for implementing a program to keep polluted runoff from entering their respective MS4s. The Cities of Reno and Sparks already had an active staff of inspectors for wastewater pretreatment inspection for businesses throughout the Truckee Meadows. Moreover, there was already an agreement between the Cities of Reno and Sparks, and Washoe County to conduct pretreatment inspections within the unincorporated areas. It was concluded that using the existing pretreatment programs would be the most effective means of implementing the industrial discharge detection and elimination element of the MS4 permit.

The co-permittees funded development of the Industrial Program Video for outreach to commercial operations and provided it to each business in the Cities of Reno and Sparks, and Washoe County visited by the inspectors over a one-year period. An *Industrial and Commercial Stormwater Best Management Practices Handbook* was prepared in 2007 (KJC, 2007) and updated in 2020 (Cardno, 2020), this is available for download at www.tmstormwater.com.

5.1.8 Hillside Development

The 2016-2035 RWMP Policy 2.2.1 requires local governments to develop management strategies for areas with slopes greater than 15 percent but less than 30 percent within one year of adoption of the 2016-2035 RWMP (WRWC, 2017). Proposals for watershed changes in areas

with slopes greater than 15 percent are of concern as they relate to subjects of the 2016-2035 RWMP. Therefore, the management strategies that are developed as a requirement of 2016-2035 RWMP Policy 2.2.1 shall be submitted to the NNWPC for review, comment, and recommendation.

Policy 3.1.g. below, is within the 2016-2035 RWMP:

Policy 3.1.g: Management Strategies for Slopes Greater than 15 Percent

Local government management strategies for hillsides with natural slopes greater than 15 percent and less than 30 percent shall be submitted to the NNWPC for review, comment, and recommendations prior to incorporation into local government master plans.

Local government management strategies should ensure that:

- Activities comply with the terms of the stormwater NPDES permits;
- Development on such slopes incorporates on-site and/or off-site mitigation measures for impacts to habitat and water quality;
- Ordinances are enforced with respect to erosion control and runoff;
- Local governments and entities with responsibility for the provision of utilities such as water, wastewater, and flood control services have identified the additional costs of infrastructure, operations, and maintenance associated with development in these areas, and said costs are economically feasible;
- Natural recharge areas are identified and protected; and
- An analysis is performed to identify flood and erosion hazard areas, and potential mitigation measures.

5.1.9 Noxious Weed Control

The term “noxious weed” is used by government agencies for nonnative plants that have been defined as pests by law or regulation. The Nevada Revised Statutes (NRS) defines noxious weeds as “any plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate”. All noxious weeds in the State of Nevada are regulated by the Nevada Department of Agriculture (Nevada Department of Agriculture, 2021).

The Nevada Department of Agriculture manages Nevada’s Noxious Weed Regulatory Program. Its responsibility is to enforce the noxious weed control laws under the NRS and Nevada Administrative Code (NAC). NRS, Chapter 555, 555.005 defines a noxious weed as “any species of plant which is, or likely to be, detrimental or destructive and difficult to control or eradicate.” NAC 555.010 has designated certain vegetation species as noxious, subdividing them into the following three categories: Category A, B, and C.

“The rapid spread of invasive species remains one of our country's biggest environmental problems, a situation complicated by the sheer number of invasive species, lack of a coordinated and comprehensive effort to prevent introductions, monitor and survey for new introductions, and the remarkable ability of invasive species to adapt, reproduce and ultimately

overtake entire ecosystems” (Western Governors’ Association Policy Resolution 10-4). Invasive weeds are increasingly recognized as threats to water quality, wildlife habitat, recreational activities and the economic stability of the agricultural industry. They increase the cost of water purification, power generation and irrigation supply, reduce property values, and degrade ecosystem functions.

In 2004, to better coordinate the management of invasive weeds, the Truckee Meadows Weed Coordinating Group was formed. Members include federal agencies, state agencies, county and city parks and roads staff, environmental organizations, the UNCE, and others. Operating under an MOU and annual action plans, this group seeks grant funding to inventory, control and monitor weeds, as well as restore degraded sites. In 2009, a weed management plan was completed. No dedicated funds are supplied to the group. Projects include broad weed surveys in 2005 and 2007; weed mapping; guidelines on preventing the spread of weeds; weed treatment along tributaries to the Truckee River, as well as along the river; weed treatment in other areas, such as Swan Lake Nature Study Area; weed management and restoration of burned sites; a website with a weed reporting form; and broad public outreach. The group seeks to avoid duplication of efforts and strategically focus on those invasive weeds that represent the greatest opportunity for successful elimination, such as medusahead, as well as the species that impair riparian habitat. Reno is considering the use of mechanical control methods.

In 2010, with grant funds from the Truckee River Fund, a boat inspection program modeled on the program at Lake Tahoe was launched on Boca and Stampede Reservoirs and Independence Lake to monitor for invasive aquatic organisms including quagga mussels and Asian clams, as well as invasive aquatic weeds. If the Truckee River becomes infested with invasive mollusks, costs for water treatment and energy production are expected to increase sharply. A focus on proactive monitoring and prevention techniques will help reduce the threat of invasion, but the program requires continuing funding.

5.2 Stakeholders and Resources for Watershed Management and Protection in the Truckee Meadows

Stakeholders are actively engaged in restoration efforts on the Truckee River from Lake Tahoe to Pyramid Lake. Land uses (including flood control, irrigation, channelization, and urbanization with resulting hydromodification downstream) have greatly altered instream and adjacent riparian habitats. In some locations, such alterations to waterways have eliminated floodplains and meanders, causing steeper stream gradients, bank erosion, channel downcutting, lower stream bed elevations and lower water tables. Lowered water tables result in loss of streamside vegetation. In the Truckee River watershed, this has resulted in loss of shade, warmer in-stream water temperatures and subsequent reduced amounts of DO available for native fish communities. The reduced or absent riparian and in-stream complexity has caused a decline in habitat available to fish as cover, for spawning, and migration. The results of all this have led to

the non-functional river and stream reaches observable today, necessitating watershed restoration efforts.

Tahoe to Verdi

The Truckee River, from Tahoe City to the Verdi area, has many beneficial uses and demands. Land uses include timber harvesting and ski resorts. The Truckee River Watershed Council is a California-based nonprofit organization committed to “collaborative solutions to protect, enhance, and restore the Truckee River watershed”, and facilitating partnerships to benefit the watershed. High priority projects are located throughout the middle Truckee River, and on tributaries feeding it, including restoration projects as well as behavior-changing education on BMPs.

Projects have been planned with a wide assortment of stakeholders and include meadow and riparian restoration to re-establish properly functioning conditions and reduce erosion; urban stream management using BMPs to reduce stormwater pollution; stabilize banks of incised creeks; restore floodplain, habitat and agricultural lands; acquire, assess and restore key properties in the river canyon; improve roads to decrease sediment loads to streams and the river; map forest road and trail networks; upgrade and replace culvert and bridge systems; reduce fuels; and implement LID projects to recharge local aquifers, treat runoff and prevent hydromodification from urbanization wherever possible.

Truckee Meadows to Pyramid Lake

The Lower Truckee River, running from the Truckee Meadows metropolitan area to Pyramid Lake, is a vital resource that serves multiple public and private benefits. Due to significant channelization efforts during the 20th century much of the river between Sparks and Wadsworth has been highly degraded. The extent, size, and condition of the riparian forest, and of bird, amphibian, and native fish species, are greatly reduced compared to 19th century pre-settlement conditions. Restoration requires rebuilding the physical environment, especially to restore channel geometry and the connection of the river to the floodplain, and active reintroduction of native plants.

TNC began working in partnership with a team of public agencies toward a sustainable Truckee River from its headwaters in the Sierra Nevada to its terminus at Pyramid Lake. TNC has been working actively to restore key reaches of the lower river and floodplain since 2000 when it purchased the McCarran Ranch along five miles of the river. TNC’s partner agencies each have their own distinct goals for the river, but as a whole they are compatible and mutually reinforcing: improve water quality, wildlife habitat and the fishery; flood protection; and opportunities for recreation.

Partner agencies include:

- U.S. Bureau of Reclamation;
- City of Reno;
- City of Sparks;
- U.S. Bureau of Land Management;
- U.S. Fish and Wildlife Service;

- [Nevada Department of Wildlife](#);
- Washoe County;
- Water Planning Commission; and
- [Truckee River Flood Management Authority](#).

The overall goal of TNC's Truckee River Project is to conserve priority native Truckee River plants and animals by protecting and restoring the lands and waters they need to survive. The project has two separate but integrated parts. On the lower river in Nevada, downstream of the Truckee Meadows to Wadsworth, TNC is implementing a large-scale floodplain acquisition and restoration program. The riparian forest and wetlands, and the birds that depend on them, are TNC's interests in the lower river. Restoration will also improve the river's ability to sustain a higher flow for eventual flood protection efforts in the Truckee Meadows. River restoration is considered a "non-structural improvement" in Reno and Sparks wastewater facility planning for water quality improvements. [The Cities of Reno and Sparks began participating in river restoration on the lower Truckee River in 2003 when the McCarran Ranch pilot project was initiated.](#)

5.2.1 One Truckee River

[The OTR Initiative is a collaboration of public and private partners working together to realize a Truckee River that flows clear and clean, quenches our thirst, sustains the river's natural ecology, cultural resources and wildlife, and connects residents and visitors to unparalleled opportunities for recreation and regeneration. To facilitate this initiative, the *One Truckee River Management Plan, Phase 1, West McCarran to Sparks Boulevard* \(KTMB and NLT, 2016\) was approved by the Cities of Reno and Sparks, and Washoe County in September of 2016. This plan includes four primary goals and over 140 strategies and action items that must be implemented or coordinated to achieve the OTR vision. Phase One covers the more urban stretch of the river from West McCarran in Reno to Vista Boulevard in Sparks.](#)

The plan's primary goals are to:

- 1) Protect water quality and ecosystem health
- 2) Create and sustain a safe, beautiful, and accessible river
- 3) Build an aware community
- 4) Ensure the sustainable management of the river

The *One Truckee River Management Plan, Phase 1, West McCarran to Sparks Boulevard* (KTMB and NLT, 2016) can be viewed at: <http://onetruckeeriver.org/>.

4.1.15.2.2 Truckee River Coordinated Monitoring Program

The Truckee River watershed is currently monitored and sampled by many different groups for water quality. Under the CWA, the Truckee Meadows MS4 permit permittees monitor established Truckee River tributaries on a regular basis, per the MS4 permit requirements and the SAP. In recent years, the SWPCC has also monitored urban outfalls to the Truckee River to understand

better changes to water quality resulting from storm events. TMWRF monitors the Truckee River at various points downstream of the urbanized area, as well as Steamboat Creek above and below the discharge point, to track potential water quality impacts on the river, per discharge permit requirements. The quality of the Truckee River water is monitored at treatment plant intakes by TMWA and Washoe County under the Safe Drinking Water Act. The TRFMA monitors flows for flood prediction and future projects. The NDEP monitors streams, including the Truckee River, for purposes of assessing compliance with WQS for the Nevada Integrated Report.

Raising concerns over the health of the Truckee River, the Legislative Committee to Oversee the WRWC requested a bill draft in August 2008 for a Truckee River monitoring resolution. With the Legislative direction (BDR R-237, SCR-2), the NDEP gathered a working group to create a MOU to encourage entities that are engaged in water quality monitoring of the Truckee River to coordinate activities. With 14 signatories, the MOU, which expired in 2014, brought parties together, provided a platform for collaboration and quality control, provided a data clearinghouse for technical resources and dissemination of public information on the health of the Truckee River.

The SWPCC applied to the NDEP for CWA Section 319(h) funding, and was awarded a grant to hire a consultant to facilitate the coordinated monitoring efforts. Reno, as lead agency for the TMWC, entered into a grant agreement with the NDEP for facilitation support. Reno managed a Request for Qualifications in 2009, and the Committee selected KJC to facilitate a process and create a Coordinated Monitoring Plan. With a full year of extensive technical meetings and compiling information KJC produced the Coordinated Monitoring Plan which was published in June 2011. This compendium may be found on TRIG at: <http://www.truckeeriverinfo.org/project/truckee-river-coordinated-monitoring-programs>.

As required by NPDES permits to discharge to the Truckee River, Tahoe-Truckee Sanitation Agency (T-TSA) and TMWRF monitor water quality monthly at various points on the mainstem river and nearby tributaries. The following bar charts (**Figures 5-3, 5-4, and 5-5**) depict contaminants of concern per TMDLs set by the NDEP on the lower Truckee River. Constituents are measured at three locations: Farad (by T-TSA), and East McCarran and Lockwood (by TMWRF). Chemical and biological indicators of water quality are included in data gathering efforts under permit. The significance of the figures below shows increased concentrations of TDS, TN, and TP as water flows from upstream to downstream. Data may be found on the TRIG website at www.truckeeriverinfo.org/data.

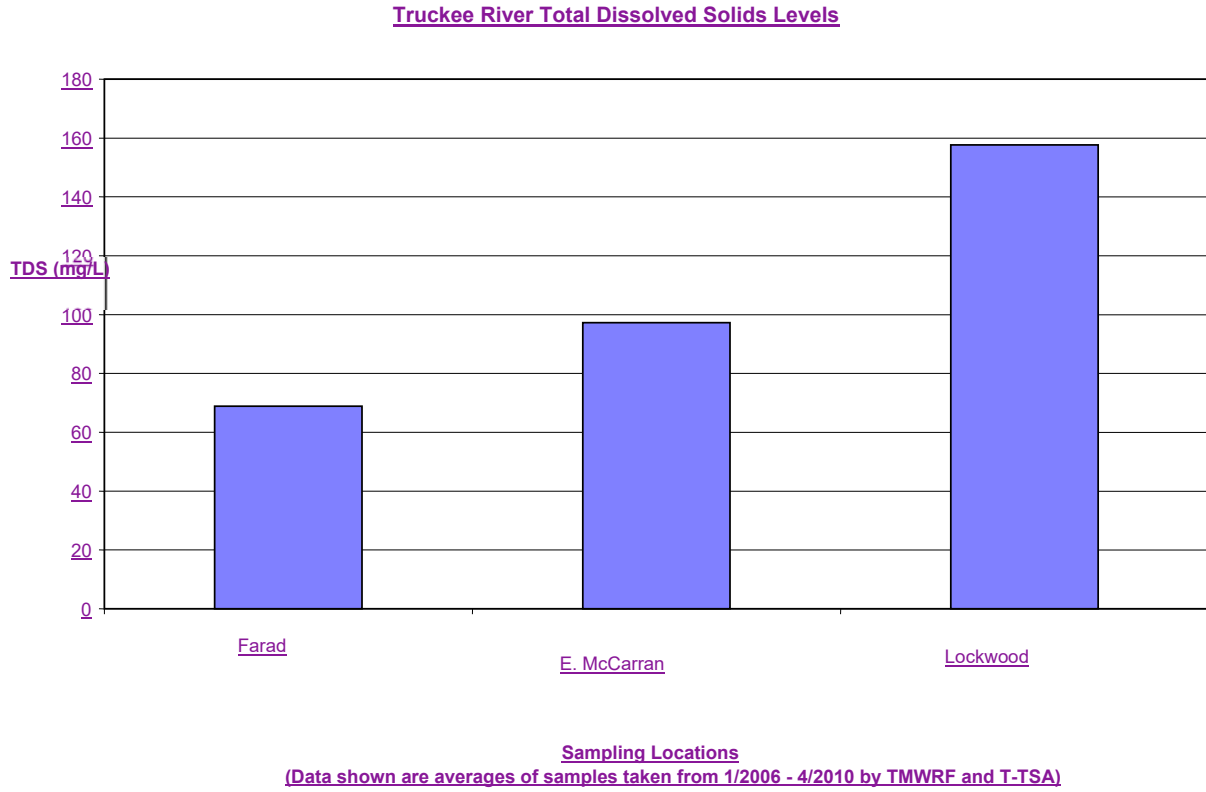


Figure 5-3 Total Dissolved Solids on the Truckee River

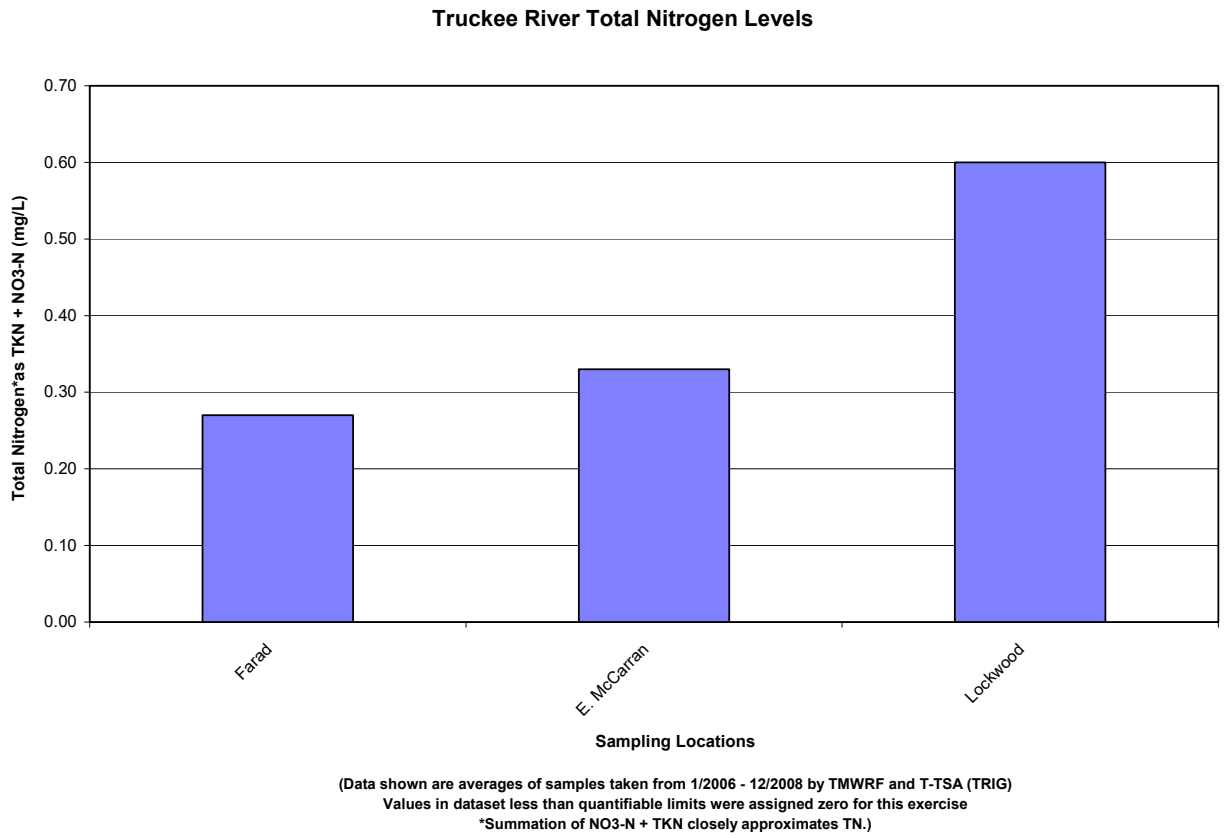


Figure 5-4 Total Nitrogen on the Truckee River

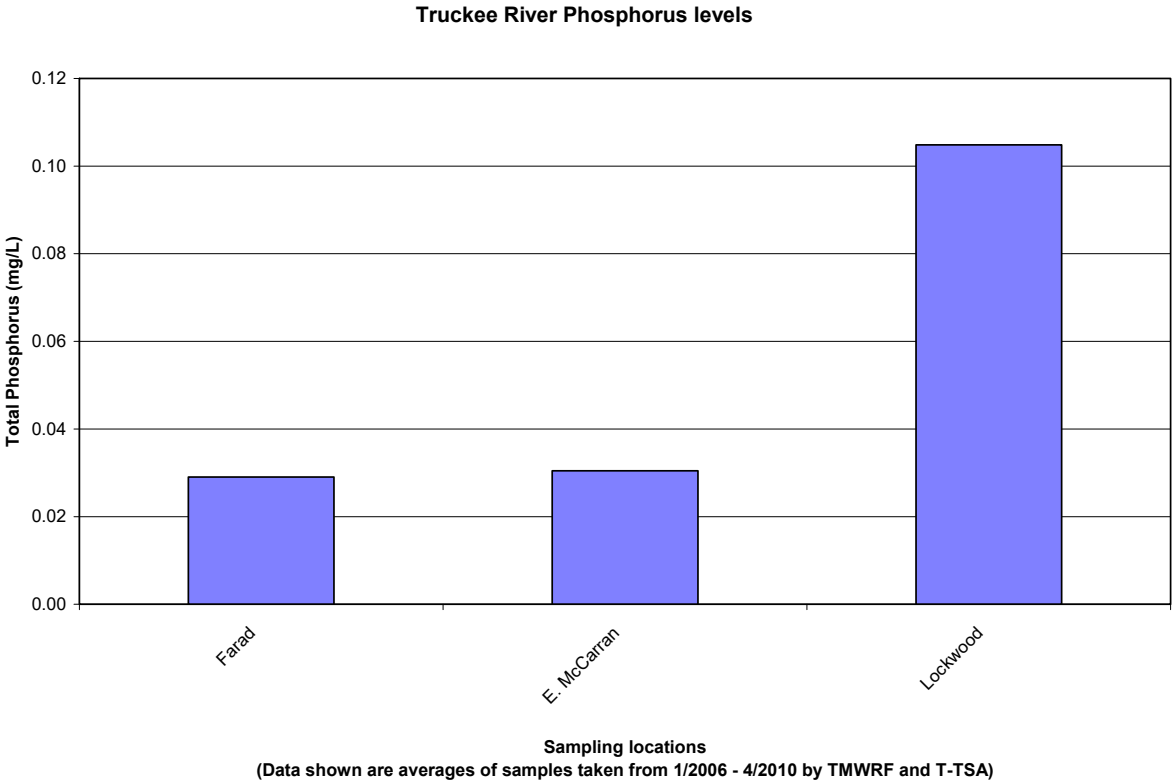


Figure 5-5 Total Phosphorus on the Truckee River

Referring to **Figure 5-5** (a graph of average TP concentrations), it is evident that the WQS for TP is exceeded at Lockwood. The current TP WQS for the Truckee River at Lockwood, 0.05 mg/L, has been in place for many years and was based on non-site specific national standards. The TP WQS was derived from a national criterion designed for the protection of downstream lakes rather than from site specific criteria and riverine processes. Upstream of Lockwood at East McCarran, the Water Quality Standard for TP is 0.10 mg/L. The 2015 PLPT Water Quality Standard for Phosphorus at the tribal boundary is expressed as 0.022 mg/L of DRP (or orthophosphate). The dissolved form of Phosphorus is considered to be the readily bioavailable component. Given the variety of WQS for Phosphorus throughout the Truckee River system, beneficial uses are being maintained upstream of East McCarran, but from Lockwood to the PLPT boundary the beneficial use criterion of 0.05 mg/L is consistently not being met.

Water quality at Farad, California just west of the state line, reflects water quality upstream of the Truckee Meadows, and is considered background water quality for the Truckee Meadows area. Monitoring results at East McCarran Boulevard in the east Truckee Meadows, reflect some changes to water quality that occur within the urbanized area. Results at Lockwood, below the Truckee River narrows east of Sparks, reflect the full water quality impact of the Truckee Meadows. Truckee River water quality reflects the national trends observed and reported by the EPA on waterways passing through urbanized areas.

Tributaries with high levels of Phosphorous-containing compounds, identified by the NDEP and added to the Nevada 303(d) List, include Alum Creek (TP), Chalk Creek (Ortho P), and Whites Creek (TP)⁴. *Truckee River Water Quality: Current Conditions and Trends Relevant to the TMDL and WLAs* (Jassby et. al., 2007), includes a technical review that describes how the Truckee River behaves in response to nutrients (http://www.truckeerriverinfo.org/files/truckee/Jassby_2007_Truckee.pdf).

5.2.3 5.1.7—Truckee River Information Gateway

Regional stakeholders recognized a great need for a watershed clearinghouse for all stakeholders to share technical data, maps, and other valuable resources collected on the Truckee River and tributaries. The TRIG, www.truckeerriverinfo.org, was developed in 2004 by Ecological Resource Associates (ERA), primarily funded by the Cities of Reno and Sparks, and has become the premier data gathering/sharing tool for technical users in the Truckee River watershed. This resource is intended to save time and local computing resources by providing a platform and online database to share valuable information and build better understanding of the Truckee River watershed's complexity. The TRIG is currently hosted through Media Temple, a virtual private

⁴ See Appendix G, NDEP comments.

server service, and the \$600 hosting fee is paid for by the City of Reno. Discussions regarding a permanent place for TRIG are ongoing through the SWPCC.

5.2.4 TMWA

TMWA is dedicated to educating our community for better tomorrows. TMWA provides a variety of educational resources on their website for water conservation, water efficient landscaping, available workshops, tours, and events, water quality standards, management of water supply, water reclamation, water distribution and treatment methods, how-to-videos, and many other resources. These are located here: www.https://tmwa.com.

5.2.5 Watershed Map Server

The Reno Map Server is a tool available to all internet users through the City of Reno website (<https://www.reno.gov/services/city-maps-mapserver>). In 2007, sufficient interest built in extending mapping abilities to the watershed by incorporating tributaries to the Truckee River, including all creeks assessed in the watershed assessments (Jesch et. al., 2009). The City of Reno built a Watershed Map Server as part of the existing Geographic Information System (GIS) tool, but took information directly from the watershed assessments.

The website includes: photos and photo points referenced on the map, introduction, assessment text of middle and lower reaches of each stream, and “tips to help your creek”. Individual maps may be accessed by creek name or region and drilled down to an aerial photo at the greatest level of resolution. Technical users who understand GIS can optimize its use and the latest in upgrades to this system include a permit area portal. Parties looking at completing a construction, restoration, or flood project on a portion of the Truckee River, can access all permitting agencies for that location by zooming to “permit area”.

5.2.6 TMWA Outdoor Water Conservation

TMWA offers an online water efficient landscape guide for maximizing responsible water use in the desert, using the seven horticultural principles to reduce outdoor irrigation while providing a lush and attractive outdoor area. The vast array of informational topics covered in the interactive tool include: landscape design and proper planning, planning an efficient irrigation system, plant search (by exposure or other needs), soil improvement, mulching, planting and maintenance.

This online, interactive guide for homeowners can be found at www.tmwalandscapeguide.com/landscape_guide/interactive/index.php. TMWA also provides an incentive to reducing water use outdoors, the Water Efficient Landscape Awards. This annual competition has two categories for either design by homeowner or designer, and TMWA provides free community tours of the winners’ properties the following year, to share the wealth of learning by seeing conservation in action.

5.3 Aquatic Resources Permitting and Restoration Efforts

Working in or around the Truckee River and its tributaries on restoration, flood control, and construction projects requires many permits, and protective measures and monitoring to meet federal, state and local guidelines and regulations. The RWMF funded the *Truckee River Restoration and Construction Site Permitting Handbook* (KJC, 2009), which includes a Permitting Process Flowchart to assist users in completing all required permits for river protection, available for download at www.tnstormwater.com. In May 2009, the KJC permitting handbook was used for a *Working in the River and Permitting Workshop*, offered in the City of Reno to guide users through the permitting handbook and the permitting process. Along with development of the handbook, mapping was created to show the regulatory authorities governing various reaches of the river from the state line to Pyramid Lake. This map has been integrated as an interactive tool, located here: <https://www.reno.gov/services/city-maps-mapserver>.

5.3.1 Restoration Efforts

TNC, NLT, TRFMA, and many others have been involved in restoration projects along the Truckee River and its tributaries. Some of the Truckee River larger, notable restoration projects include, but are not limited to the McCarran Ranch, Mustang Ranch, Lockwood, Derby Dam, 102 Ranch, Tracy Power Plant as well as floodplain restoration between Sparks and Wadsworth, Nevada. In addition, restoration projects in tributaries to the Truckee River have also been implemented. Some of these projects are at Steamboat Creek, Chalk Creek, Alum Creek, and the North Truckee Drain.

Steamboat Creek

Steamboat Creek is a tributary to the Truckee River. Steamboat Creek receives water from many streams flowing down the north Carson Range, including Browns, Galena, Jones, Whites, Thomas, Dry, and South Evans Creeks, most of which have undergone significant urbanization changing their functionalities and increasing nonpoint source pollution. *A Steamboat Creek Restoration Plan* was prepared as a guide for policy makers, landowners, developers, and citizens with an interest in land adjacent to Steamboat Creek (Jeff Codega Planning/Design, Inc. and Westec., Inc., 1998). The plan may be found here: documents.wrwc.us/index.html. A few restoration projects have occurred within and adjacent to Steamboat Creek.

The SouthEast Connector is a regional roadway which connects the southern part of the Truckee Meadows with the eastern part of the Truckee Meadows. The SouthEast Connector project included the creation of about 90 acres of new riparian corridor for Steamboat Creek (Regional Transportation Commission of Washoe County, 2021).

Chalk Creek

Chalk Creek was identified in the *Watershed Assessment for Tributaries to the Truckee River* (Jesch and Jesch, 2009, and prior years) as contributing significant TDS, N, and P loads to the Truckee River. Levels of these three constituents have been measured regularly as one to two

orders of magnitude higher than other tributaries in the Truckee Meadows. Chalk Creek is also included on the current Nevada 303(d) List. A cooperative monitoring program has been established; the data collected and processed has been posted to TRIG.

The City of Reno has implemented a three-part approach to assess possible options for reducing pollutants in Chalk Creek: (1) evaluate treatment options; (2) investigate pollutant sources; and (3) public outreach. Part one studied the feasibility of treatment technologies potentially available to treat Chalk Creek water. The second investigated the source of contaminants with a complete Chalk Creek sub-watershed characterization. Part three, public education, targeted homeowners and large turf properties in the Chalk Creek drainage to encourage responsible outdoor water and chemical use.

ECO:LOGIC Engineering prepared a report which studied treatment technologies and concluded that a low-tech constructed wetland utilizing microbial action to reduce sulfate in the system would be most feasible and effective for treating TDS (ECO:LOGIC, 2009). The City of Reno, using additional support from the Truckee River Fund and community volunteers, constructed a pilot-scale sulfate-reducing wetland in May 2010. As most of the TDS in Chalk Creek is in the form of sulfate, a reduction in TDS was expected as a result of sulfate reduction in the wetland. A cooperative venture with UNR provided monitoring for water quality and performance for a year. The technology proved to be less effective than anticipated and the project was discontinued.

JBR Environmental Consultants, Inc. conducted a comprehensive watershed characterization and discovered that the system was historically ephemeral and that all warm weather flows are the result of irrigation. The study also revealed that Chalk Creek is located on a particularly vulnerable soil type which leaches salts and nutrients when heavily irrigated. Heavy development and turf planting were discovered to be a source of TDS and nutrients (JBR, 2010).

Alum Creek

Alum Creek was listed as high priority in the *Watershed Assessment for Tributaries to the Truckee River* (Jesch and Jesch, 2009) due to poor water quality. The creek has also been listed on the Nevada 303(d) List for *E. coli*, ortho-P, TP, TDS, Total Suspended Solids, turbidity, and metals (lead and iron). Alum Creek has a five-square mile watershed and flows over forest lands in the upper reaches, through the 2,300-acre creekside community of Caughlin Ranch and city park property before emptying into the Truckee River. This stream is atypical in that the majority of the irrigation season flow is diverted from Steamboat Ditch. High pressure utility lines buried in the creek are threatened by significant stream bank erosion caused by variable ditch water diversions and stormwater runoff from impervious pavement flowing through a riparian zone that has been reduced in size and converted to turf grass landscape.

Reno staff initiated outreach to the Caughlin Ranch Homeowner's Association, which owns and maintains most of the middle watershed, to advise of the 303(d) listing and to seek cooperation in watershed protection. Also, UNR is interested in understanding the flow dynamics and began

monitoring water levels and water quality in 2009. Ongoing data collection will be necessary for designing effective restoration projects to stabilize the creek banks.

Stantec, with the NLT, completed an investigation of water quality conditions in Alum Creek and provided recommendations for mitigating the problems with proper stormwater and land management practices (Stantec, 2014).

North Truckee Drain (NTD)

The NTD has a drainage area of nearly 77 square miles, primarily in Spanish Springs Valley and Sparks, and an average streamflow of one to five cubic feet per second. The NTD has been recorded over time as having elevated levels of TN, TP, and TDS. The 2009 watershed assessment found an improving functionality trend over the last few years (Jesch and Jesch, 2009), with riparian and stream vegetation flourishing and providing habitat. The NTD Relocation Project was completed and focused on flood mitigation by realigning the NTD and relocating the confluence with the Truckee River approximately 4,500 feet downstream.

5.4 Key Watershed Management Programs/Plans and Current Projects

Watershed management programs and plans are in place to support the management of the Truckee River and its tributaries. The SWMP and interagency and stakeholder collaboration are briefly presented below. In addition, summaries of the ISWPP (RCI, 2020), the 2020 Trib. Plan (NCE, 2020), and the watershed assessments for tributaries to the Truckee River are briefly presented below.

5.4.1 Truckee Meadows Regional Stormwater Quality Management Program

The SWMP has been in effect for over 20 years. The SWMP is currently operating under NPDES Permit NVS000001 effective May 26, 2010. The current Truckee Meadows MS4 permit has been administratively continued until the renewal can be completed by NDEP, which is expected in 2021. The MS4 permit (Permit No. NVS000001) requires the continued administration, implementation, and enforcement of SWMP to mitigate pollution in stormwater runoff within the Truckee Meadows MS4 permit area for the five-year term of the permit (Stantec, 2011).

The purpose of the SWMP is to reduce the pollution in municipal stormwater discharges to the maximum extent practicable. The SWMP is designed to address the pollution associated with urban runoff and to help support the water quality goals for the Truckee River, the quality of life of the Truckee Meadows, the health of the river downstream and water quality in Pyramid Lake. The SWMP is a comprehensive program that has been developed through a series of meetings and workshops attended by local government representatives, area professionals, and private citizens.

As previously mentioned in **Section 5.2.7**, the SWMP contains the following primary program elements:

- Intergovernmental Coordination
- Public Outreach~~1.10~~
- Municipal Operations
- Stormwater Discharge Monitoring
- Post Construction New Development and Significant Redevelopment (NDSR)
- Construction Site Discharge
- Illicit Discharge Detection and Elimination
- Industrial Program

The SWMP requires documents to be updated upon changes as well as annual reporting, these documents and reports include:

- SWMP
- SAP
- Annual reports to NDEP which evaluate the MS4 permit program
- Annual stormwater monitoring reports

The above-mentioned reports are located here: www.tmstormwater.com

Summary of Administration and Implementation Needs

The SWMP is a living document requiring periodic modifications to ensure that it is effectively accomplishing its objectives (Stantec, 2011). The SWMP for the Truckee Meadows will be updated with new priorities and timelines developed for the current permit term once the new permit is issued. Although not a co-permittee, NDOT is a partner and provides financial support for the SWMP, however ongoing funding is necessary to implement the program elements of the SWMP.

5.4.2 Interagency and Stakeholder Collaboration Efforts

The Cities of Reno and Sparks, Washoe County, SWPCC, OTR, KTMB, and other governmental and non-profits work together to provide regular public outreach efforts within the Truckee Meadows watershed community. One goal of the interagency and stakeholder collaboration remains to engage and inform the community regarding the importance of and ways they can protect their community's water resources. The SWMP has a robust public outreach and education component. Below are public outreach and education BMPs used through interagency collaboration as well as independently by stakeholders. Below are the public outreach and education BMPs.

Partnerships and Affiliations

- Maintain the existing relationships with partners and look for shared opportunities to continue education efforts and reduce pollution within the MS4 permit area to the Maximum Extent Practicable.
- Remain in contact with the partners, educating them on programmatic strengths, and facilitate collaboration for pollution mitigation and natural resource protection.

Public Outreach and Education Events (conducted by all stakeholders)

- Educate the public about stormwater quality, BMPs, and protecting the Truckee River.
- Develop and distribute stormwater quality informational materials at local events.
- Mitigate stormwater pollution by providing community with clear, nonpoint source pollution prevention messaging.

One example of public outreach collaboration between the SWPCC and non-profits is with the Truckee Meadows Parks Foundation Doggie Ambassador Program (Figure 5-6).



Figure 5-6 Advertising for Doggie Ambassador Project

Public Outreach and Educational Materials (conducted by all stakeholders)

- Continue to develop and use a variety of venue-appropriate items to educate the public.
- Identify the most effective materials and methods for conveying the stormwater pollution prevention messages.

Storm Drain Labeling Program (conducted by SWPCC and KTMB)

- Reduce pollutant discharge to the storm drains through increasing public awareness.
- Develop an effective stormwater message for the community.

- Build stewardship by facilitating a volunteer program for service-learning opportunities.
- Install permanent storm drain labeling by utilizing pre-stamped drop inlet covers.

Figure 5-7 depicts volunteers participating in the Storm Drain Labeling Program.



Figure 5-7 Volunteers Stenciling Storm Drains

Regional Program Website (www.tmstormwater.com) (conducted by SWPCC)

- Provide a single location for complete stormwater program information.
- Be a clearinghouse for BMPs and Truckee Meadows SWMP-related documents.
- Provide information to the public relating to stormwater and the Truckee River.
- Provide mechanism for public input.

5.2-25.4.3 ***Integrated Source Water Protection Plan***

The NDEP contracted RCI to prepare the ISWPP (RCI, 2020). The ISWPP is a tool developed by the community to help preserve and improve the quality of groundwater, lakes, rivers, springs, and streams that supply drinking water to the general public. This voluntary multi-jurisdictional planning effort is organized on a watershed basis for the Truckee River through the Truckee Meadows because the river and local aquifers comprise the drinking water sources for most of the population of Washoe County. Watershed management for nonpoint source pollution goes hand in hand with protecting source water quality. This voluntary multi-agency planning effort has produced an online mapping tool hosted on the TMRPA server. The web-based plan is readily available to agencies, organizations, and the public at WashoeCountyCleanWater.org.

The ISWPP recognizes and supports the regional entities that are responsible for components of source water and watershed protection within their jurisdiction. The ISWPP and the 2020 Trib. Plan (NCE, 2020) are mutually complementary plans and work together to address the broad scope of potential strategies for groundwater and surface water quality in Washoe County (Figure 5-8).

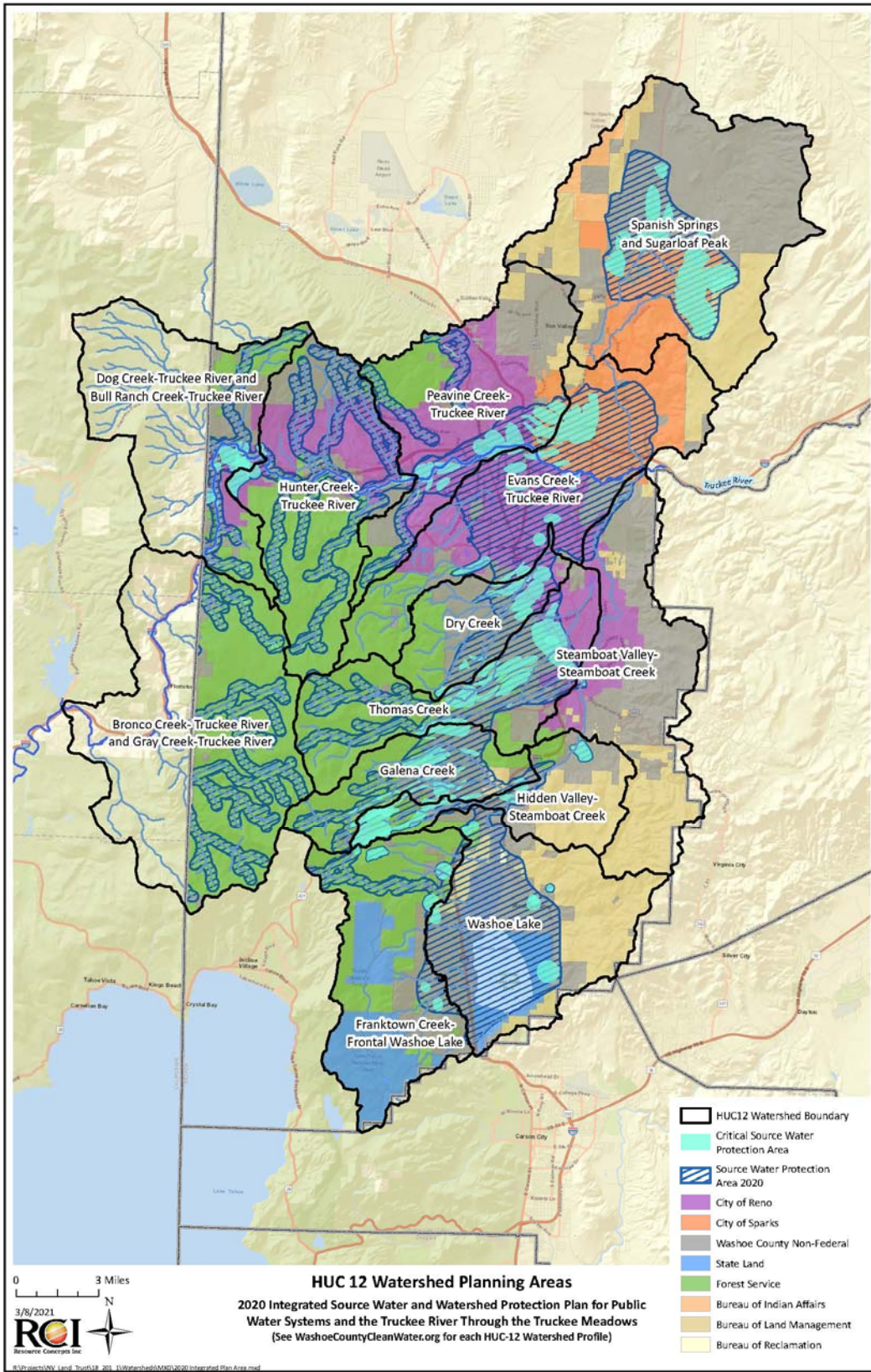


Figure 5-8 HUC 12 Watershed Planning Areas

For easy access to the county-wide ISWPP information, the map-based online format is hosted at WashoeCountyCleanWater.org (Source Water and Watershed Protection Web Map).

The planning area includes the watersheds and groundwater basins containing existing and potential future sources of public drinking water throughout Washoe County. These drinking water sources are operated by 75 different public water systems, including the Truckee Meadows Water Authority, as well as numerous mobile home parks, convenience stores, restaurants, and schools outside of the Truckee Meadows Service Area. Sources of drinking water, including key recharge areas, were used to map two levels of Source Water Protection Areas:

- “Source Water Protection Areas” represent areas where the community has established a precautionary boundary to safeguard the water quality of its drinking water sources. Within this boundary, education, monitoring, and land use planning can provide more comprehensive management of surface water and groundwater resources. These boundaries encompass aquifers and surface waters more broadly vulnerable to human activity in the region.
- “Critical Source Water Protection Areas” (Type 2) represent the land surrounding an individual well or stream where the water quality is potentially most vulnerable to contamination from human activities. Within these areas, contaminated ground or surface water is more likely to reach the drinking water supply system. Consequently, the community or PWS can focus on these boundaries to develop specific management strategies that will protect their water supply from becoming contaminated.

The county-wide effort to protect and improve water quality, includes the following strategies described for each HUC-12 watershed.

- Source Water Protection Area Identification and Management
- Education and Outreach
- Interagency Communication
- Wildfire and Fuel Management
- Resource Investigation and Planning
- Water Quality Best Management Practices

Referencing the strategies and other background information described in the Watershed Profiles or Source Water Profiles, future projects can be brought forward for potential funding by a broad range of stakeholders (local government, non-profit organizations, public water systems, etc.). A Project Profile template/format has been developed that includes the specific information needed to satisfy the EPA 9 Critical Elements of a watershed-based plan and/or a Nevada community source water protection plan. Voluntary projects developed by stakeholders to date are included in the “Project Profiles”, located here: WashoeCountyCleanWater.org. Implementation of projects,

which can be included under the watershed-based plan umbrella, demonstrate locally driven accomplishments to protect and improve groundwater and surface water quality.

5.4.4 Watershed Management and Protection Plan for the Tributaries to the Truckee River (2020 Trib. Plan)

The Cities of Reno and Sparks along with Washoe County are co-permittees of Nevada's first jointly issued NPDES MS4 permit, which regulates stormwater discharges to the Truckee River. Each agency is also cooperatively responsible for the non-regulatory implementation of watershed management beyond the MS4 permit. As a result, the 2003 *Watershed Management and Protection Plan for Tributaries to the Truckee River (Washoe County Department of Water Resources, 2003)* has been updated. This updated plan, the 2020 Trib. Plan (NCE, 2020), was prepared following the guidance outlined in the EPA's *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* (EPA, 2008). The 2020 Trib. Plan manages non-regulated discharges that can apply for funding through the 319(h) grant application. This implementation is not required nor regulated under the MS4 permit or the SWMP. The 2020 Trib. Plan is located here: www.tmsstormwater.com.

The 2020 Trib. Plan specifically addresses the SWPCC purview and correlates directly with, and is complementary to, the ISWPP planning document (RCI, 2020).

Because watershed projects will be developed over time and to better facilitate future project approval by the NDEP and the EPA, a Tributary Project Template was developed in close coordination with the SWPCC. The purpose of the Tributary Project Template is to allow the Cities of Reno and Sparks, Washoe County, non-profit proponents, government agencies, and educational institutions a greater chance of being awarded federal funding from the 319(h) program. Consequently, the 2020 Trib. Plan was structured around the nine minimum elements set forth in the 319(h) grant application. Each tributary project identified and developed is part of this nonregulated, voluntary watershed-based plan, that is not required as part of the MS4 permit.

In order to understand the characteristics of the tributary-contributing watersheds and the sources of impairment, detailed watershed descriptions and profiles were prepared that incorporate information from previous watershed assessments of tributaries to the Truckee River, and annual stormwater monitoring reports for Truckee Meadows.

The 2020 Trib. Plan presents an approach for implementing tributary projects that includes identifying interim milestones, establishing an implementation schedule, and creating targets to measure the progress and track the overall implementation of the 2020 Trib. Plan.

The 2020 Trib. Plan has been reviewed and approved by the SWPCC, the NDEP, and the EPA. Future projects may be implemented with funding support from NDEP's Nonpoint Source Program and additional funding partners through federal, state, and local grant application processes.

Within the 2020 Trib. Plan, Appendix C presents 14 future potential tributary projects focused on improving water quality within the Truckee Meadows. Below is a list of the 14 potential tributary projects and entity who may be proposing the project for 319(h) funding. These projects were identified through the watershed assessments (discussed below):

- City of Reno, Chalk Creek (two projects)
- City of Reno, Alum Creek (two projects)
- City of Reno, Weed Control (all tributaries)
- City of Reno, Stormdrain Outlet Erosion Mitigation (various tributaries)
- City of Sparks, NTD (three projects)
- Washoe County, South Evans Creek
- Washoe County, Galena Creek
- Washoe County, Jones Creek
- Washoe County, Alum Creek
- Washoe County, Whites Creek

As a result of the 2020 Trib. Plan, the City of Reno received NDEP Nonpoint Source Management Pollution 319(h) funding in the fall of 2020 on a project on Chalk Creek at Sapphire Ride to West Seventh Street. The project is named: Sapphire Ridge Chalk Creek Stabilization Project. Chalk Creek is listed as an impaired surface water on the 2016-2018 NDEP 303d impaired waters list for nitrogen, phosphorous, temperature, TDS, total suspended solids, selenium, and sulfates. While some of these constituents seem to be naturally occurring, increased runoff from urbanization has increased the hydromodification rate and led to severe erosion at some sites. The proposed project site address failed erosion measures installed during development of the subdivision Sapphire Ridge Phase 1.

5.4.5 Watershed Assessments for Tributaries to the Truckee River

A watershed assessment is a process for analyzing a watershed's current condition, estimating the likely causes of that condition, and summarizing the watershed monitoring activities during the reported time period (NCE, 2020). Watershed assessments provide valuable data for development of needed restoration actions. Assessments have been conducted on tributaries of the Truckee River in 2003, 2005-2012, and 2015-2017. Each assessment includes geographic and hydrologic descriptions of the streams and relevant physical descriptions including the geology of the soils, slope, wetlands, areas prone to flooding, vegetative cover, noxious weed cover, and land use in the study area. Watershed sanitary surveys are also conducted and summarized within the watershed assessments to identify potential sources of pollution such as hazardous material, landfills, road de-icing material, pesticides and herbicides, and large concentrations of septic tanks. **Figure 5-9** depicts the watersheds within the Truckee Meadows.

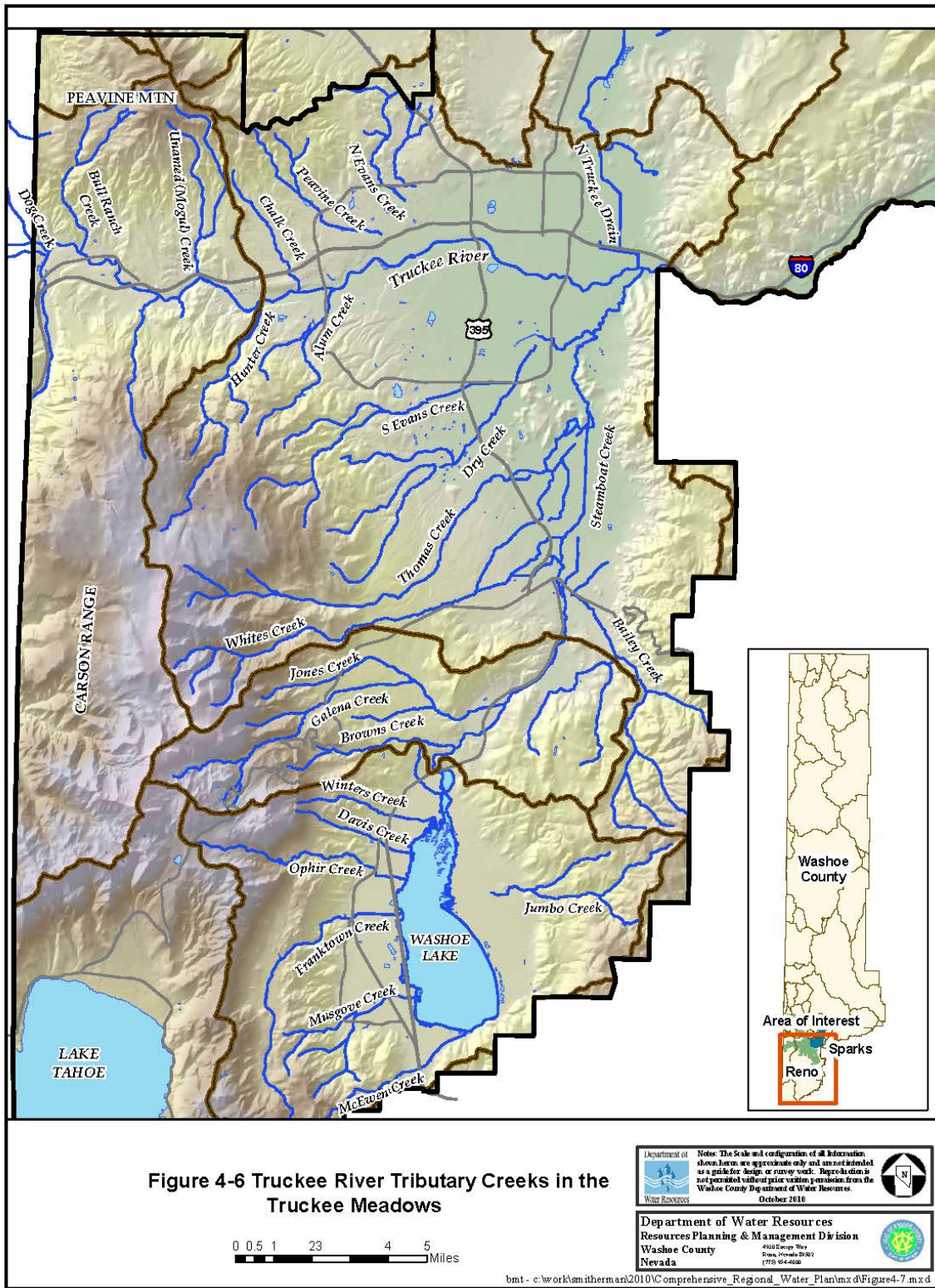


Figure 5-9 Tributary Creeks in the Truckee Meadows Area

Watersheds are monitored in a consistent format following the 2003 Watershed Management Plan. The watershed assessments are located here: www.tnmstormwater.com.

Examples of items tracked through watershed assessments efforts are listed below. These, along with other identified needed management measures, help inform planning efforts for future 319(h) projects.

- A total of 47 species of noxious weeds were observed on public and private lands during the assessments. Species of noxious weeds present included medusahead, musk thistle, puncture vine, purple loosestrife, salt cedar, tall whitetop, yellow star-thistle, and water hemlock. An aggressive weed eradication program was recommended throughout the watershed.
- Many reaches of the tributaries were determined to be functional-at-risk; some were considered non-functional such as the middle reach of Alum Creek and the lower reach of Chalk Creek; and a few were considered as proper functioning. Below is a photo of severe channel incision at Chalk Creek (Figure 5-10).



Figure 5-10 Chalk Creek Channel Incision

Summary

Watershed assessments are a key component of the watershed management planning for tributaries to the Truckee River and the ISWPP. The watershed assessments have been conducted on tributaries of the Truckee River in 2003, 2005-2012, and 2015-2017. The watershed assessments are important for the tracking of the overall health of the Truckee Meadows watersheds, to evaluate impacts and areas previously identified as failures, as well as to assist with the identification of tributary restoration projects. Funding will be necessary to continue conducting the watershed assessments and all the other important programs outlined in Chapter 5. The regional efforts described here are essential to the 2021-2040 RWMP.

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**TMSWPCC Storm Water Management Budget Fiscal Year 2020-2021
3rd Quarter**

Category	Budget Items	Program Budget	WRWC Contribution	NDOT Participation	Total Billed WRWC	Total Billed NDOT	Total Budget Remaining	% Spent	% Remain	Notes
Stormwater Quality	USGS	\$ 12,350.00	\$ 12,350.00		\$ 6,175.00		\$ 6,175.00	50%	50%	
	Field Supplies Equipment misc	\$ 5,000.00	\$ 5,000.00		\$ -		\$ 5,000.00	0%	100%	
	Balance Hydro	\$ 162,747.20	\$ 122,060.40	\$ 40,686.80	\$ 74,091.92	\$ 24,697.31	\$ 63,957.98	61%	39%	
	Cardno Ind BMP hand	\$ 23,465.50	\$ 17,599.13	\$ 5,866.38	\$ 11,501.91	\$ 3,833.97	\$ 8,129.62	65%	35%	
	Misc. Stormwater Support	\$ 30,262.79	\$ 30,262.79				\$ 30,262.79	0%	100%	
	Subtotal	\$ 233,825.49	\$ 187,272.31	\$ 46,553.18	\$ 91,768.83	\$ 28,531.28	\$ 113,525.39	51%	49%	
Outreach	KTMB	\$ 2,000.00	\$ 1,500.00	\$ 500.00	\$ -	\$ -	\$ 2,000.00	0%	100%	
	Cardno Ind Training	\$ 19,956.68	\$ 19,956.68		\$ 12,581.00		\$ 7,375.68	63%	37%	
	SWAG		\$ -		\$ -		\$ -			
	TMPF	\$ 2,495.01	\$ 2,495.01		\$ 2,495.01		\$ -		0%	
		\$ -	\$ -				\$ -			
	Subtotal	\$ 24,451.69	\$ 23,951.69	\$ 500.00	\$ 15,076.01	\$ -	\$ 9,375.68	62%	38%	
Administration and Support	NDEP	\$ 1,276.00	\$ 1,276.00		\$ -		\$ 1,276.00	0%	100%	
	City of Reno/Staffing	\$ 50,000.00	\$ 50,000.00		\$ 37,569.49		\$ 12,430.51	75%	25%	
	Subtotal	\$ 51,276.00	\$ 51,276.00	\$ -	\$ 37,569.49	\$ -	\$ 13,706.51	73%	27%	
Total	Totals	\$ 309,553	\$ 262,500	\$ 47,053	\$ 144,414	\$ 28,531	\$ 136,608			Total Budget/Billed WRWC/NDOT
Check		\$ 322,500	\$ 262,500	\$ 60,000	\$ 144,414	\$ 28,531	\$ 136,608			Totals check
	OK	OK	OK	OK	OK	OK				Over budget check
					OK	OK				Invoice Tab Check

Percent Total Budget Spent	56%
Percent WRWC Budget Spent	55%
Percent NDOT Budget Spent	61%
Unallocated Budget WRWC \$	30,263
Total Budget Remaining \$	136,608
Total WRWC Budget Remaining \$	118,086
Total NDOT Budget Remaining \$	18,522

WESTERN REGIONAL WATER COMMISSION SUPPORTING TRUCKEE MEADOWS STORMWATER QUALITY MANAGEMENT 2021-22

1. Stormwater Quality

\$201,300

The SWPCC continues to implement the stormwater quality monitoring program to meet current requirements of the NPDES Stormwater MS4 permit issued May 29, 2010. The committee implements the 2021 Sampling and Analysis Plan (Balance Hydrologics). Item 1A includes a contract with Balance Hydrologics, Inc. for implementation of stormwater sampling during storm events for the water year 2021-22, ambient monitoring activities and the Fiscal Year 2021 Stormwater Monitoring Annual Report. Hiring a consultant to assist with various activities that may occur throughout the fiscal year is included in this task along with the continued maintenance of a stream gage on the North Truckee Drain at Big Fish Drive. Task totals identified below includes anticipated cost sharing with Nevada Department of Transportation (NDOT), whereby the NDOT pays 25% of the contract for activities of which NDOT contributes and benefits from.

1A. Water Quality Monitoring:

Balance Hydrologics will provide technical services for Stormwater Quality Monitoring. Services include storm event sampling and automation at tributary sites and outfalls to the Truckee River, trends analysis, and writing the FY21 Truckee Meadows Stormwater Monitoring Annual Report. Sampling within FY21 is underway and tasks will be completed in FY22. Sampling for FY22 will begin in FY22 and tasks will span the fiscal year.

Item 1.A: \$137,000

1B. Miscellaneous Stormwater Quality Management Consultant Services:

This item covers the various tasks that may be required throughout the fiscal year, providing a mechanism to hire a consultant to support items such as review of a new permit and comparison to existing Stormwater Management Program (SWMP), loading model evaluations, facilitation of watershed management activities and collaboration, including but not limited to Watershed Assessments of Tributaries to the Truckee River.

Item 1.B: \$50,000

1C. North Truckee Drain Stream Gage Maintenance:

The SWPCC renewed a Joint Funding Agreement with the United States Geological Survey (USGS) for stream gage maintenance and service on the North Truckee Drain (NTD) near Big Fish Drive. Three locations along the NTD are monitored annually as part of the stormwater monitoring effort.

Item 1.C: \$9,300

1D. Field supplies/equipment/miscellaneous monitoring:

The SWPCC has aging field equipment that requires periodic repair and replacement. Additionally, as new sampling locations are added, additional monitoring equipment is required. This task is a placeholder for new equipment and unanticipated replacement needs for the monitoring program. This item also includes staff time for miscellaneous sampling, and analytical fees.

Item 1.D: \$5,000

2. Public Outreach and Technical Guidance **\$9,924**

The SWPCC continues to implement its public outreach and education requirements related to the Truckee Meadows MS4 permit. Activities include outreach to community groups such as KTMB and OTR, providing education and training to municipal operations and construction inspection staff, SWPPP training to contractors, providing educational materials and other aspects of the Stormwater Program Communications Plan.

3. Interlocal Coordination and Permitting Support **\$51,276**

The City of Reno will continue to provide coordination and administrative services, managing various consultant contracts to implement the program for the three partner agencies.

Total for WRWC Interlocal Agreement * **\$262,500**

* Proposed funding amounts allocated to various task are estimates. The City of Reno reserves the right to move funds between tasks as necessary to accomplish the goals outlined in this scope of work.

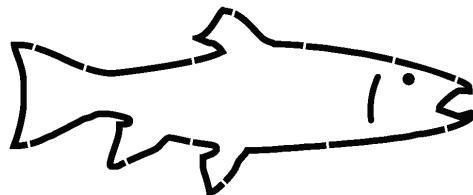
Public Works/Truckee Meadows Storm Water Program

Truckee Meadows Storm Water Permit Coordinating Committee (SWPCC) Stormdrain Stenciling Project during KTMB's Great Community Cleanup

City of Reno Environmental Engineering staff administer the Truckee Meadows Storm Water Program (a requirement of the Truckee Meadows MS4 permit) through the Storm Water Permit Coordinating Committee (SWPCC). A regular part of SWPCC's required public outreach effort include stenciling stormdrains throughout the City with the phrase: "No Dumping – Drains to River". Last weekend, Daniel Moss, on behalf of SWPCC, partnered with KTMB's Annual Spring Great Community Cleanup to lead a group of volunteers in a stenciling event. This year, SWPCC and KTMB coordinated with Washoe County to locate a handful of Incorporated Washoe County neighborhoods along the Mt. Rose Hwy corridor, in need of stenciling. On the morning of May 1, a group of seven (7) adults plus six (6) children stenciled a total of 136 stormdrains, in five (5) separate neighborhoods. They staged out of South Valley Regional Park, and enjoyed a beautiful day of stenciling the sidewalk (with blue spray paint), and picking up some trash too!



NO DUMPING



DRAINS TO RIVER